TECHNICAL MEMORANDUM

LANDAU ASSOCIATES
ENVIRONMENTAL | GEOTECHNICAL | NATURAL RESOURCES

TO: Michael Kuntz, Washington State Department of Ecology

FROM: Piper Roelen, P.E., and Martin Valeri MCV

DATE: July 15, 2013

RE: MONTHLY REMEDIATION PROGRESS REPORT – JUNE 2013
FORMER HEAVENS SUPPLY COMPANY SITE (VCP #NW1698)
7009 GREENWOOD AVENUE NORTH
SEATTLE, WASHINGTON

Per the reporting and data submission requirements outlined in the Final Cleanup Action Plan (Landau Associates 2012) as approved by the Washington State Department of Ecology (Ecology; 2012), this technical memorandum summarizes the status and progress of the electrical resistance heating (ERH) and soil vapor extraction (SVE) remedial action at the Former Heavens Supply Company site (Site) located at 7009 Greenwood Avenue North in Seattle, Washington (Figure 1). A Site map is provided as Figure 2. This progress report covers the June 2013 reporting period.

SUMMARY OF WORK COMPLETED DURING REPORTING PERIOD (JUNE 2013)

- The ERH/SVE system operated nearly continuously from June 1 through June 26, 2013. The system was shut down briefly on June 18 to allow for changeout of the vapor-phase granular-activated carbon (VGAC) and liquid-phase GAC (LGAC). The system was shut down again on June 26 in preparation for interim cleanup drilling and soil sampling (results to be reported in July status report).
- While in operation, TRS collected daily system operation data (e.g., energy application, subsurface temperatures, and vapor system flow rates) and optimized system performance during active operations.
- Landau Associates collected vapor samples and monitored contaminant concentrations in vapor with a photoionization detector (PID) from various sampling points in the vapor recovery (VR) lines and from the influent, mid-point, and effluent of the vapor-phase granular-activated carbon (VGAC) system in conformance with the requirements of the Puget Sound Clean Air Agency (PSCAA) air permit.
- Landau Associates conducted weekly performance monitoring of indoor air and soil vapor, with samples collected as follows:
  - Indoor air samples from the neighboring residences during the weeks of June 3, June 10, June 17, and June 24.
  - Soil vapor samples from perimeter soil vapor monitoring wells (wells VMW-1 through VMW-4, SMW-2 through SMW-4, and VP-1) during the weeks of June 3, June 10, and June 24. Sampling was not performed on June 18 due to conflict with TRS' VGAC changeout activities.

  - Landau Associates also collected weekly vacuum measurements from each of the vapor monitoring points to monitor the vacuum influence of the SVE and VR systems.

- Landau Associates also conducted quarterly performance monitoring for groundwater, with samples collected as follows:
  - Groundwater samples from deep monitoring wells (diffusion bags placed June 5 and collected June 18; wells MW-2 through MW-5).
  - No groundwater samples were collected from shallow (perched groundwater) monitoring wells SMW-2 through SMW-4 as these wells were all dry.

SUMMARY OF REMEDIATION PROGRESS AND PERFORMANCE MONITORING DATA (JUNE 2013)

- As of July 1, 1,642,045 kilowatt-hours (kWh) of energy (approximately 54 percent of the design total energy delivery) has been applied to the subsurface by the ERH system, resulting in an average 79.9 degree Celsius (°C) rise in subsurface temperature from the start of power application through July 1. Temperatures increased from an average of 90.4°C on May 27 to an average of 96.3°C on July 1. Greater detail on energy delivery, subsurface temperature profiles, and vapor system flow rate data for the reporting period are included in TRS's *Electrical Resistance Heating Weekly Status Reports* for this reporting period (Attachment 1).
- Monitoring results for indoor air sampling indicate that concentrations of the Site contaminants of concern [specifically tetrachloroethene (PCE), trichloroethene (TCE), and vinyl chloride (VC)] in the indoor air spaces of neighboring residences were below the Site-specific cleanup levels during this reporting period. Table 1 summarizes cumulative laboratory analytical results for indoor air. Laboratory analytical reports for indoor air sampling are provided in Attachment 2.
- Monitoring results for soil vapor sampling, from vapor monitoring wells around the perimeter of the Site, indicate that concentrations of volatile organic compounds (VOCs) PCE and TCE varied. Table 2 summarizes cumulative laboratory analytical results for soil vapor. Figures 3a and 3b present soil vapor VOC concentrations over time at each monitoring location. Laboratory analytical reports for soil vapor sampling are provided in Attachment 3. Results for samples from most of the vapor monitoring wells appear to be relatively stable or consistent; however, concentrations in samples collected from SMW-2 appear to be generally increasing. This increase may be related to the operation of the new vapor recovery points operating to the west of the well (i.e., vapor being pulled from the active heating area toward SMW-2. Results from VMW-3 and VMW-4 have been somewhat sporadic but may be exhibiting an overall increase. These wells are located adjacent to known areas of soil contamination in the public rights-of-way that are not within the zone of influence of either the active heating area or vapor recovery system. These increased concentrations may be related to seasonal fluctuations and increases in ambient air temperatures[1] in these contaminated areas (Figure 3c illustrates this apparent correlation).
- Monitoring of vapors from various sampling points in the ERH/SVE system VR lines (including influent concentrations to the VGAC system) through PID measurements and laboratory analysis indicates that VOC concentrations peaked slightly in early April and have steadily declined since that time, even though active heating has continued to increase soil temperatures across the Site. Tables 4 and 5 summarize cumulative laboratory analytical results for vapor samples from the northern SVE trench, and the VGAC influent, mid-point, and effluent, respectively. Laboratory analytical reports for system vapor sampling are

[1] Ambient air temperatures used for comparison from local Phinney Ridge weather station: http://www.wunderground.com/weatherstation/WXDailyHistory.asp?ID=KWASEATT206&day=31&year=2012&month=1&graphspan=week.

provided in Attachment 3. Figure 4 presents PID measurements over time at various points in the ERH/SVE system VR system.

- Groundwater sampling from deep groundwater monitoring wells (MW-2 through MW-5) indicate that PCE, TCE, VC, and cis-1,2-dichloroethene (cis-1,2-DCE) were not detected at concentrations greater than the laboratory reporting limits in groundwater samples collected from the deep aquifer. Shallow monitoring wells were all dry during the sampling event. Table 3 summarizes cumulative laboratory analytical results for groundwater. Laboratory analytical reports for groundwater sampling are provided in Attachment 4.
- Approximately 103,436 gallons of condensate was generated and treated through the LGAC system during the reporting period. All of the treated condensate plus 12 gallons of blowdown, for a total of approximately 103,448 gallons, were discharged to the sanitary sewer. Influent and effluent (sewer discharge) samples were not collected during this reporting period (not required by discharge authorization). Analytical results for previous condensate samples indicate that VOC concentrations in water being discharged to the sewer are below King County discharge limits.
- Approximately 45,150 gallons of potable water (from the municipal water supply) was used for drip feed into the electrode borings to maintain adequate soil moisture for electrode conductance.

PROBLEMS ENCOUNTERED, RESOLUTION, DEVIATIONS FROM WORK PLAN, AND EXPLANATION FOR DEVIATIONS DURING REPORTING PERIOD (JUNE 2013)

The following summarizes deviations during the reporting period from the performance monitoring schedule outlined in the Cleanup Action Plan (Landau Associates 2012):

- Indoor air samples were not collected at the following locations and dates:
  - Privacy FOIA (b) (6) residence the week of June 10 and June 17; the residents' schedule could not accommodate sampling on these dates.
  - Privacy FOIA (b) (6) residence in the basement the week of June 10 and the "Tower" sampling location on the week of June 24; the residents' schedule could not accommodate sampling on these dates.
  - [redacted] residence the week of June 24; the residents' schedule could not accommodate sampling on this date.
- Soil vapor samples were not collected on the week of June 17 because the schedule conflicted with TRS's GAC changeout activities occurring that week.

These deviations from the planned sampling schedule did not result in any significant impact to the results of the overall performance monitoring program for the Site. No other issues or problems were encountered during this reporting period.

SUMMARY OF CLEANUP PROGRESS

The following summarizes progress of the overall Site cleanup through the end of this reporting period:

- Energy delivered to the subsurface by the ERH system resulted in rising subsurface soil temperatures (after the temporary shutdown), and an average temperature of approximately 96°C was reached by July 1.
- Vapor samples and PID measurements taken from various points in the ERH/SVE system VR piping indicate that VOC concentrations peaked in mid-April and have steadily declined since that time, even though active heating has continued to increase soil temperatures across the Site. This continued decrease in extracted vapor VOC concentrations suggests that even though volatilization should continue to increase with increased temperature, sorbed and liquid-phase VOC mass in the subsurface has been significantly depleted resulting in an overall decrease in mass removal rates. Based on VR flow rates and laboratory data through June, an estimated 908 pounds of total VOCs (primarily PCE) were removed from the subsurface through the ERH and SVE system since system startup.
- Although there has been a fair amount of variability, soil vapor sampling data from perimeter vapor monitoring wells have shown that VOC concentrations have generally declined or remained similar to baseline concentrations around the Site since system operations began. More recently, soil vapor PCE concentrations in perimeter soil vapor monitoring wells have been mostly stable, except for apparent increases observed in SMW-2, VMW-3, and VMW-4. These trends appear to be related to modifications to the site vapor recovery system and seasonal variations in temperatures.
- Indoor air sampling data indicate that VOC concentrations were well below Site cleanup levels in all the neighboring residences during the reporting period.
- Groundwater sampling data continue to indicate VOCs are not present in the deep aquifer beneath the Site.

REFERENCES

Ecology. 2012. Letter: *Voluntary Cleanup Site No. NW1698 – 7009 Greenwood Avenue/Approval of Cleanup Action Plan (CAP of November 7, 2012)*. From Michael Kuntz, Site Manager, Washington State Department of Ecology, to Sue Wollenberg, Former Heavens Supply Company Property Owner. November 16.

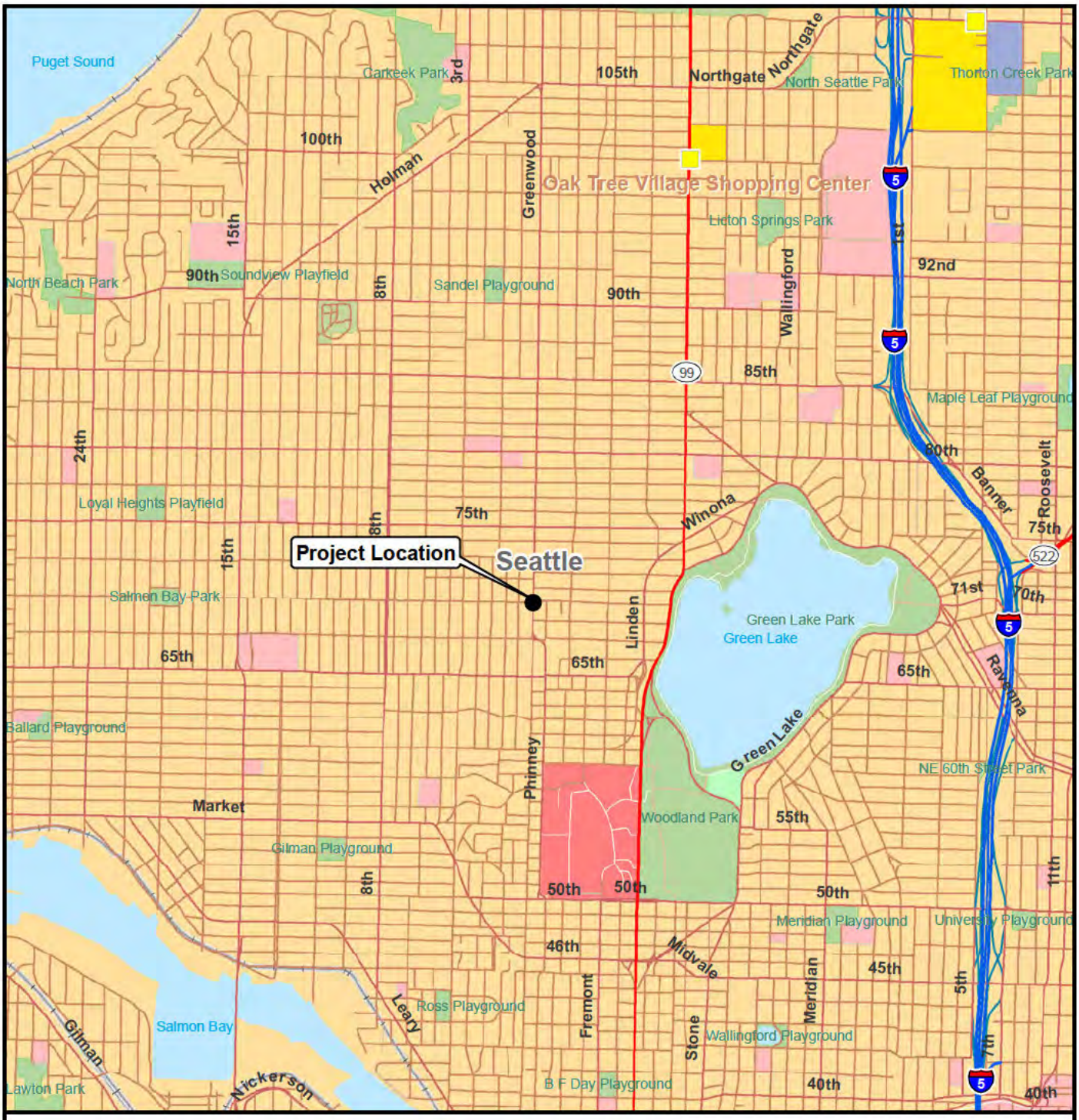
Landau Associates. 2012. *Final Cleanup Action Plan (Revision 1), Former Heavens Supply Company Property, 7009 Greenwood Avenue North, Seattle, Washington*. November 7.

ATTACHMENTS

Figure 1: Vicinity Map
Figure 2: Site Map
Figure 3: Soil Vapor VOC Concentrations / Correlation of PCE Concentrations in Soil Vapor (VMW-3/VMW-4) with Ambient Temperature
Figure 4: PID Measurements in ERH/SVE System

Table 1: Indoor Air Analytical Results
Table 2: Soil Vapor Analytical Results
Table 3: Groundwater Analytical Results
Table 4: SVE Vapor Analytical Results
Table 5: Influent, Mid-Point, and Effluent Vapor Analytical Results

Attachment 1: TRS Electrical Resistance Heating Weekly Status Reports for May 7 to July 1, 2013 (on DVD)
Attachment 2: Laboratory Analytical Reports – Indoor Air (on DVD)
Attachment 3: Laboratory Analytical Reports – Vapor (Soil and ERH/SVE System) (on DVD)
Attachment 4: Laboratory Analytical Reports – Groundwater (on DVD)



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Data Source: ESRI 2008

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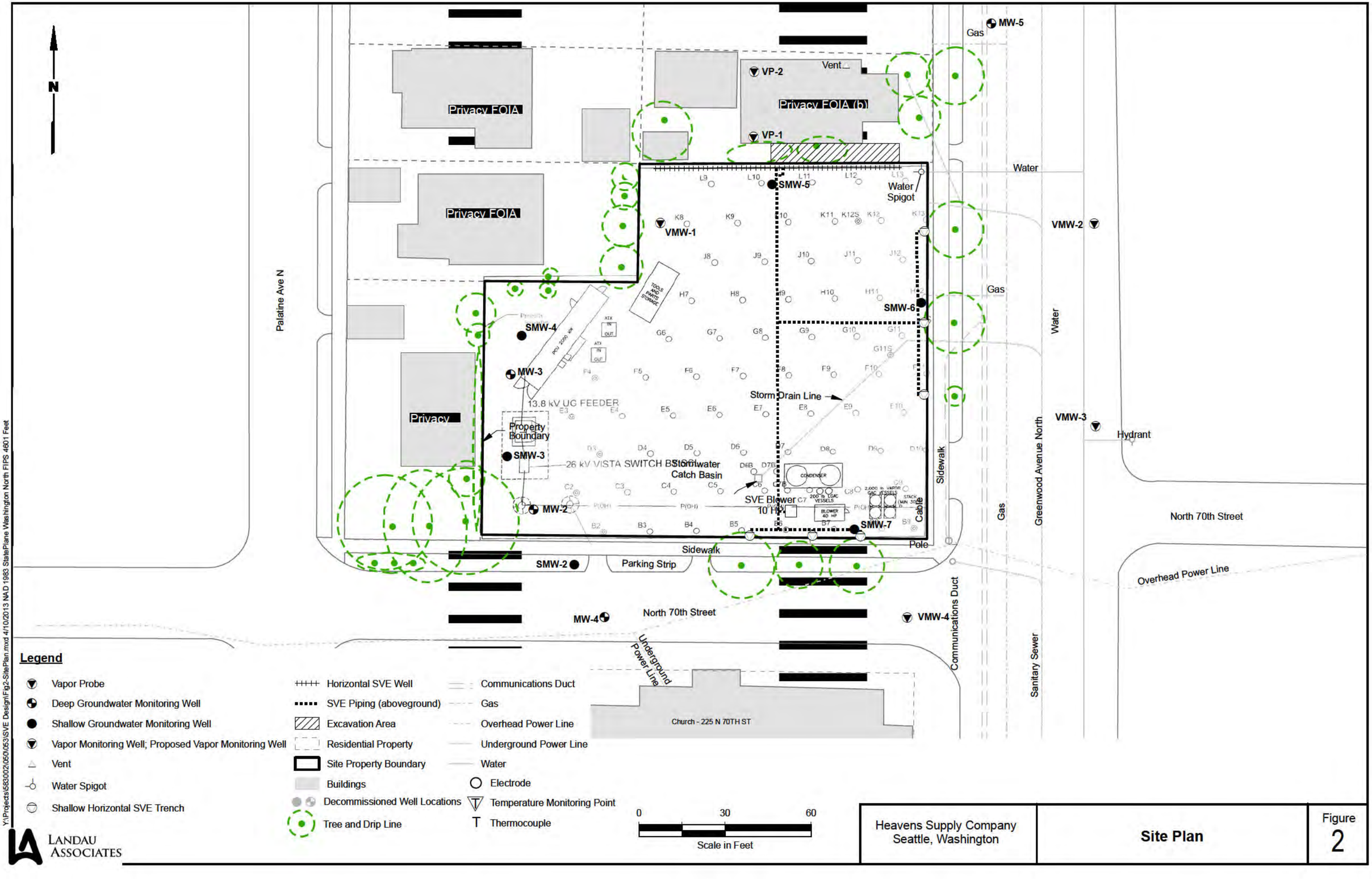
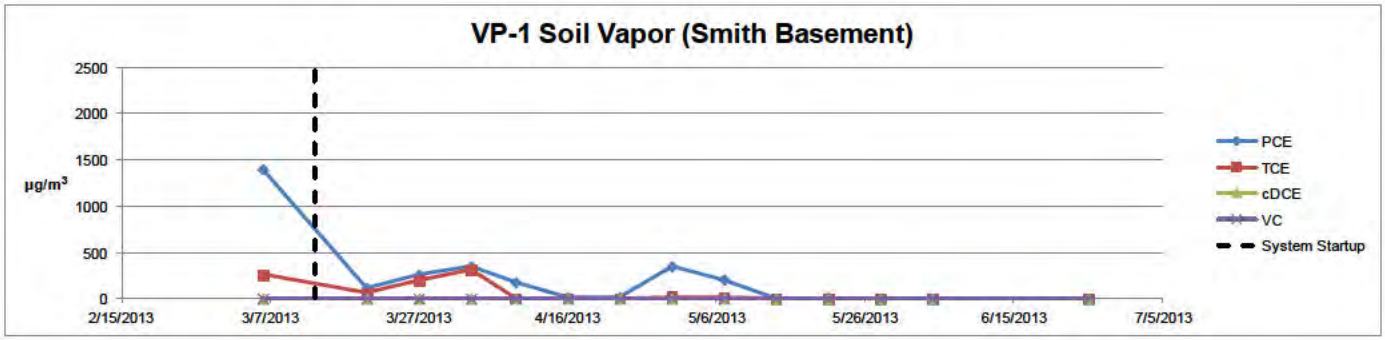
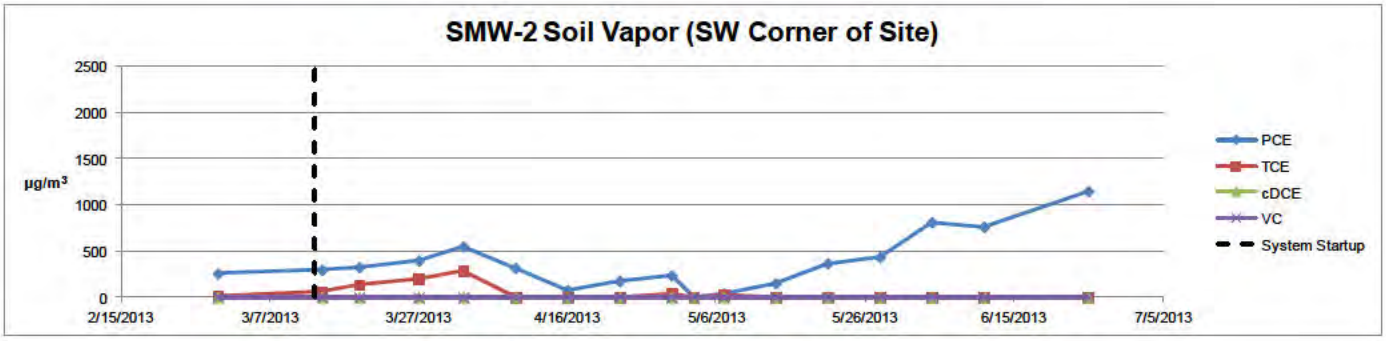
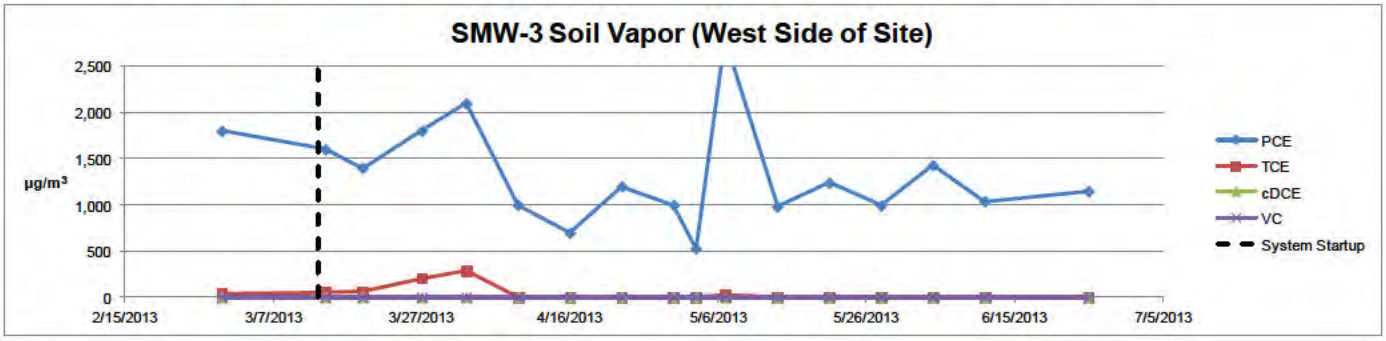
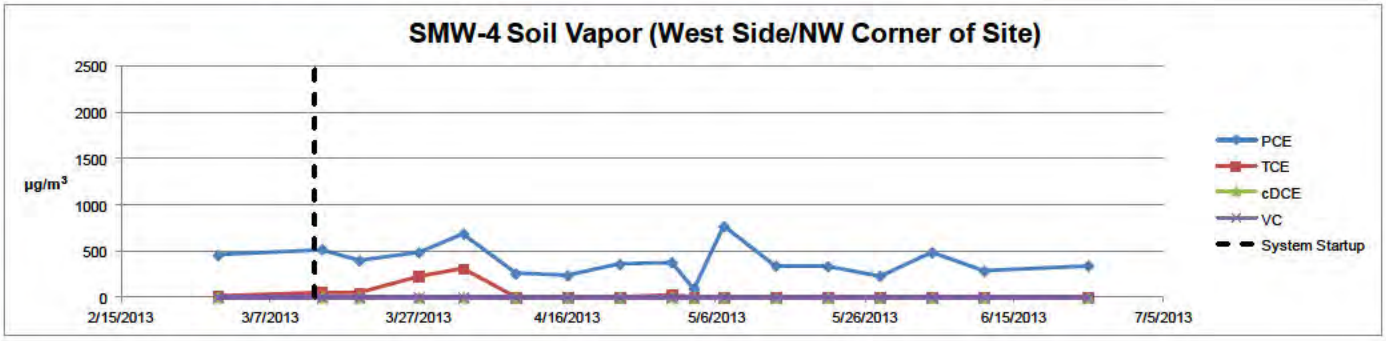
Heavens Supply Company Seattle, Washington	**Vicinity Map**	Figure 1


N
Privacy FOIA
Privacy FOIA
Privacy FOIA (b)
VP-2
VP-1
Vent
MW-5
Gas
Water
Water Spigot
SMW-5
VMW-1
VMW-2
Palatine Ave N
SMW-6
Gas
SMW-4
MW-3
13.8 kV UG FEEDER
Storm Drain Line
Property Boundary
SMW-3
26 kV VISTA SWITCH BAY
Stormwater Catch Basin
SVE Blower 10 HP
MW-2
SMW-7
Cable
Pole
Sidewalk
Parking Strip
SMW-2
Sidewalk
Communications Duct
Gas
Greenwood Avenue North
VMW-3
Hydrant
North 70th Street
Overhead Power Line
MW-4
North 70th Street
VMW-4
Underground Power Line
Sanitary Sewer
Church - 225 N 70TH ST
Legend
Vapor Probe
Deep Groundwater Monitoring Well
Shallow Groundwater Monitoring Well
Vapor Monitoring Well; Proposed Vapor Monitoring Well
Vent
Water Spigot
Shallow Horizontal SVE Trench
Horizontal SVE Well
SVE Piping (aboveground)
Excavation Area
Residential Property
Site Property Boundary
Buildings
Decommissioned Well Locations
Tree and Drip Line
Communications Duct
Gas
Overhead Power Line
Underground Power Line
Water
Electrode
Temperature Monitoring Point
Thermocouple
0
30
60
Scale in Feet
LANDAU ASSOCIATES
Heavens Supply Company
Seattle, Washington
Site Plan
Figure
2
Y:\Projects\583002\060\053\SVE Design\Fig2-SitePlan.mxd 4/10/2013 NAD 1983 StatePlane Washington North FIPS 4601 Feet









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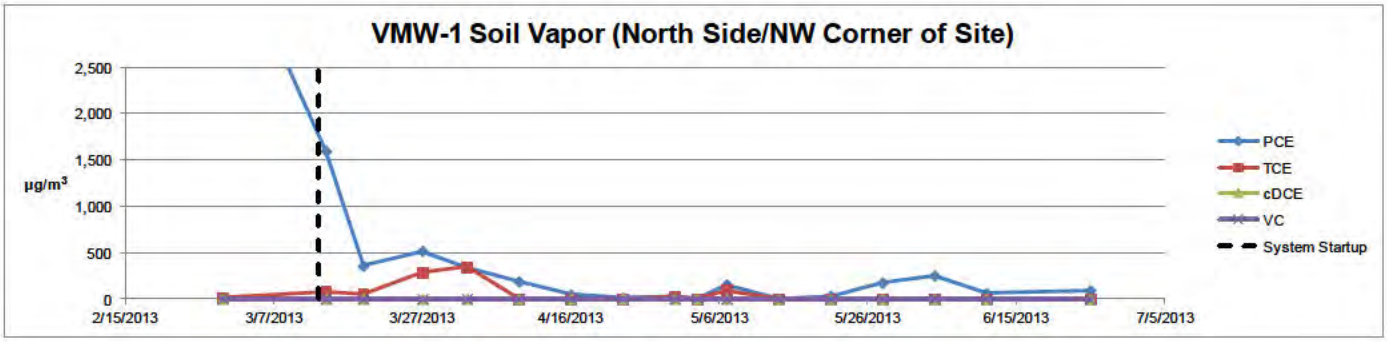
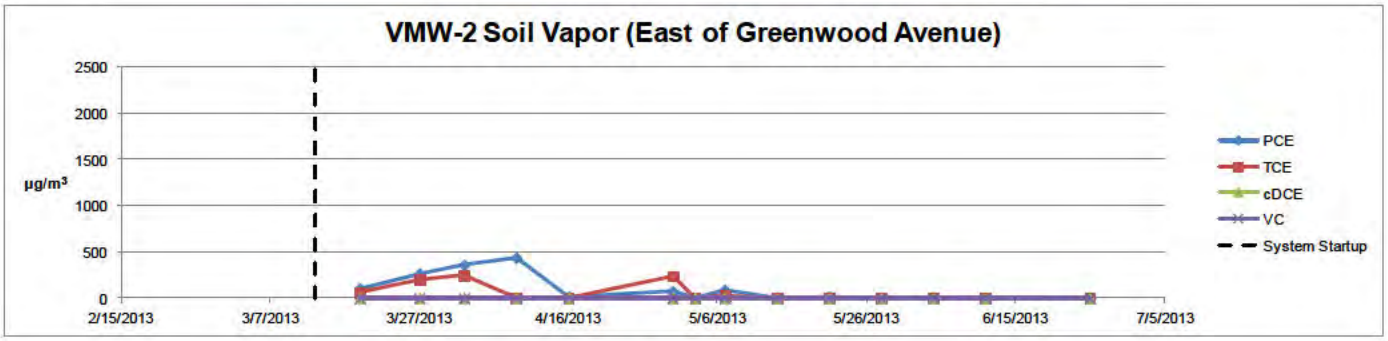
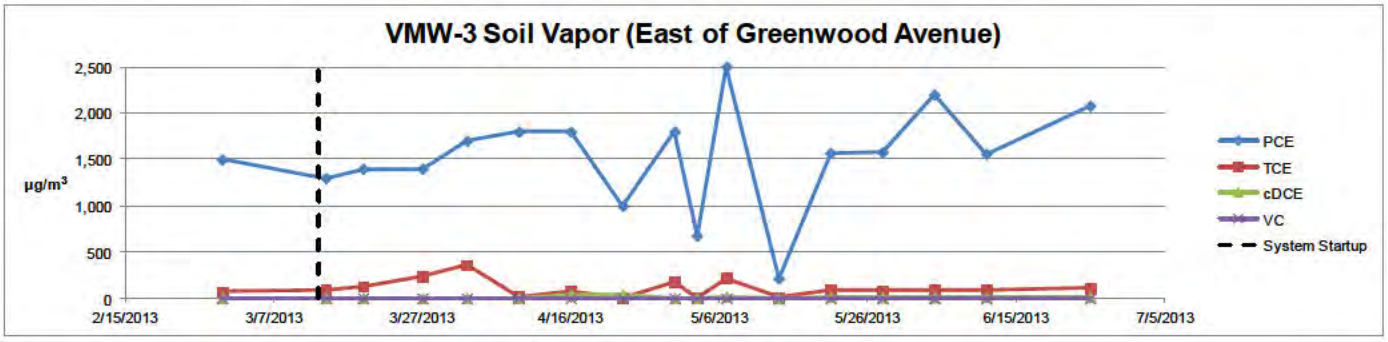
Heavens Supply Company
Seattle, Washington

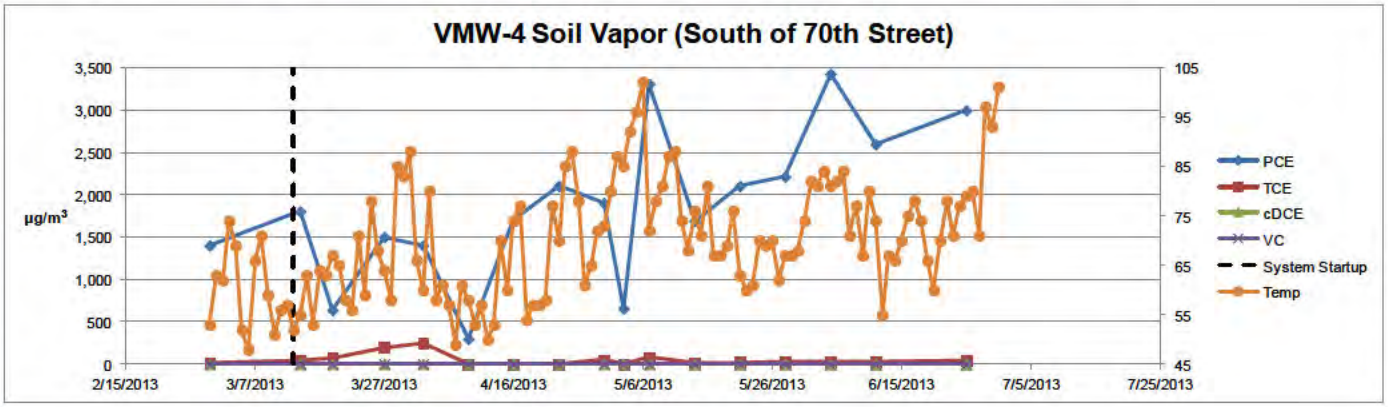
Soil Vapor VOC Concentrations

Figure
3a









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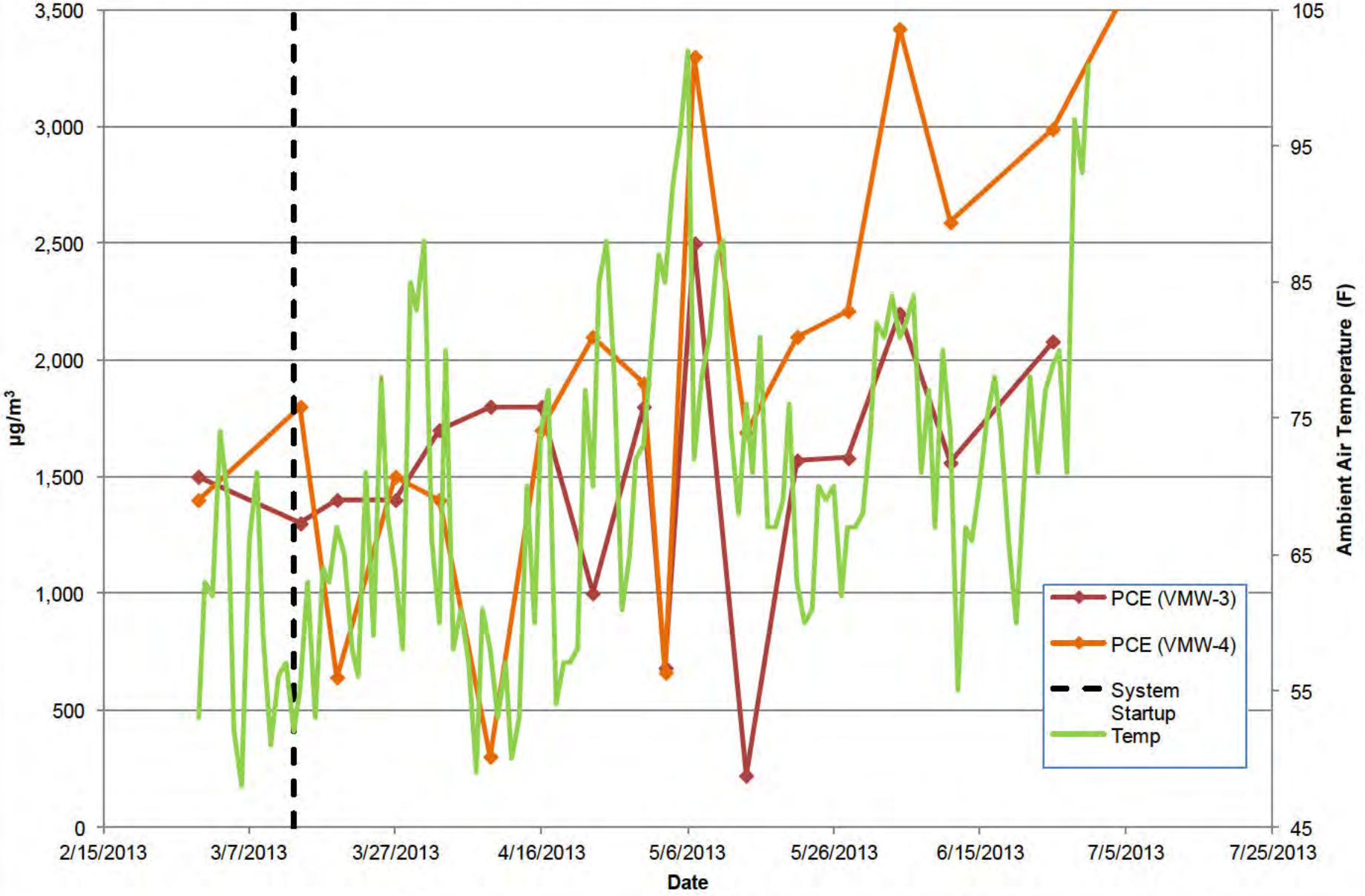
Heavens Supply Company
Seattle, Washington

Soil Vapor VOC Concentrations

Figure
3b



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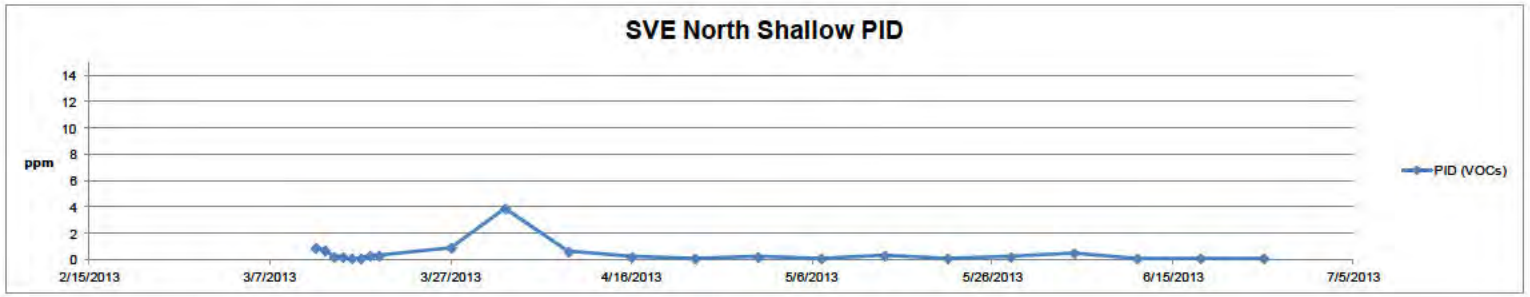
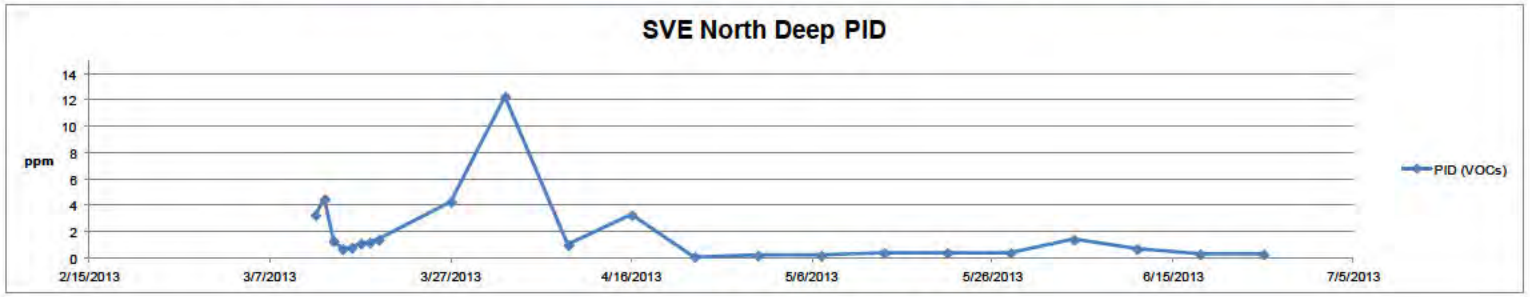
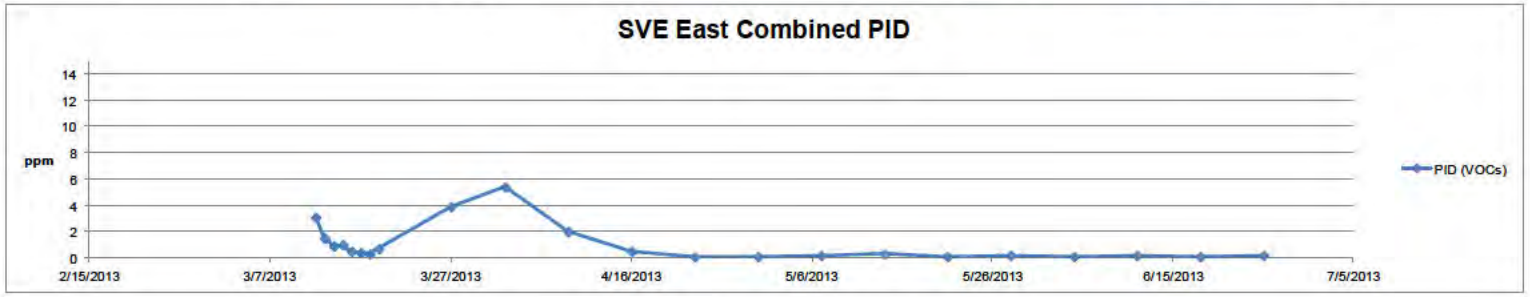
Heavens Supply Company
Seattle, Washington

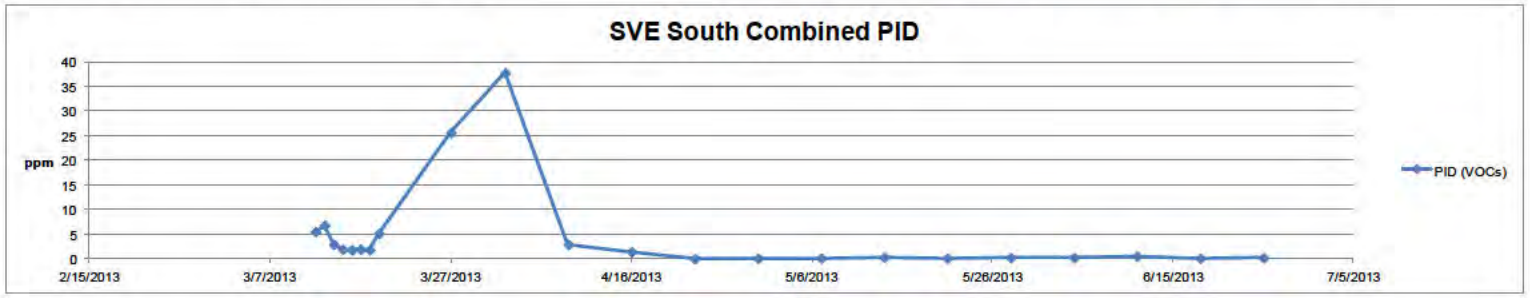
Correlation of PCE Concentrations in Soil Vapor (VMW-3/VMW-4) with Ambient Temperature

Figure
3c









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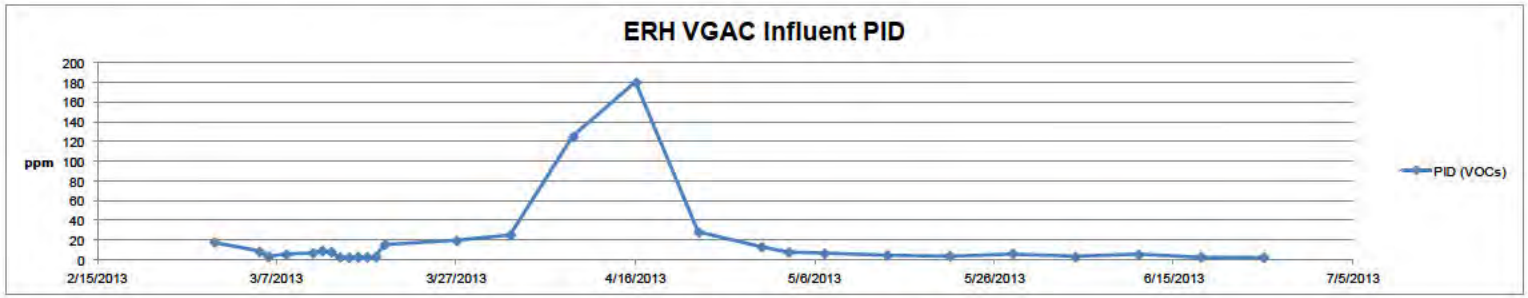
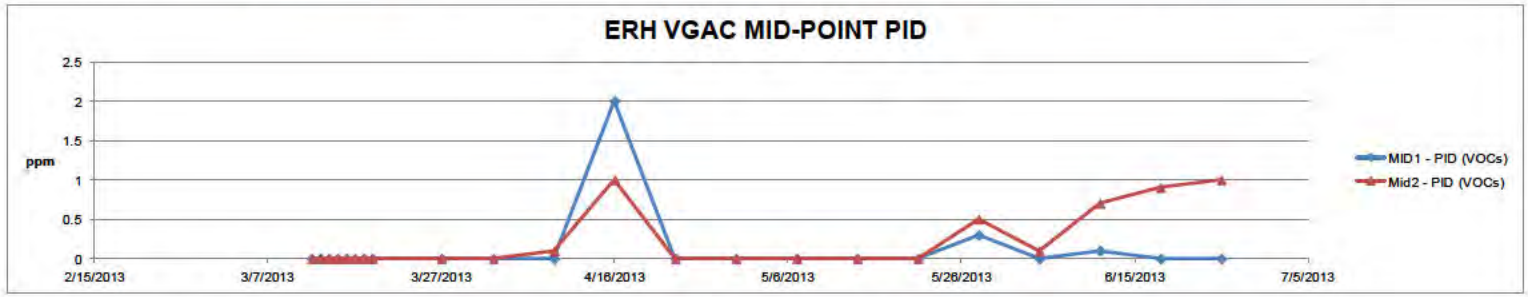
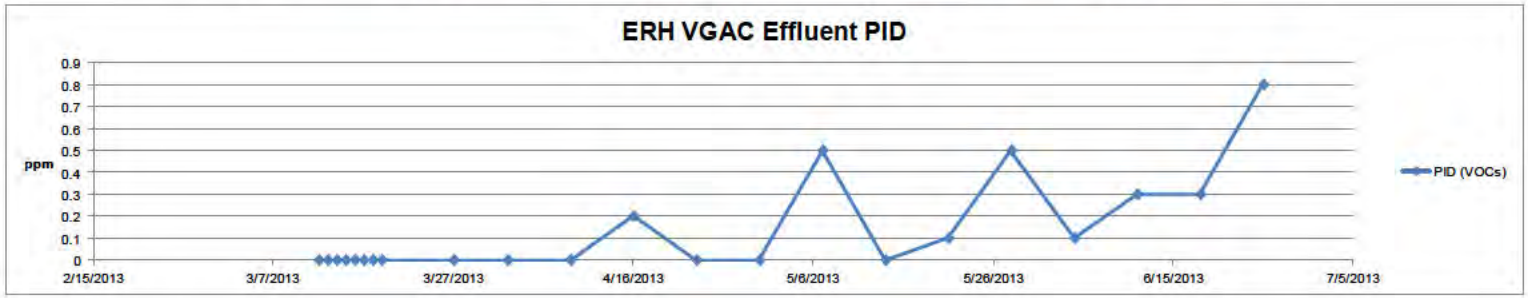
Heavens Supply Company
Seattle, Washington

PID Measurements in ERH/SVE System

Figure
4a







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Heavens Supply Company Seattle, Washington	**PID Measurements in ERH/SVE System**	Figure 4b

TABLE 1
INDOOR AIR ANALYTICAL RESULTS
FORMER HEAVENS SUPPLY COMPANY SITE
SEATTLE, WASHINGTON

	[redacted]-Basement (µg/m^3)				[redacted]-Basement (µg/m^3)				[redacted]-Basement (µg/m^3)			
Sample Date	Vinyl Chloride	cis-1,2-DCE	TCE	PCE	Vinyl Chloride	cis-1,2-DCE	TCE	PCE	Vinyl Chloride	cis-1,2-DCE	TCE	PCE
3/5-3/6/2013 (baseline)	0.043 U	0.13 U	**0.043**	0.23 U	0 037 U	0.11 U	**0.034**	**0.74**	0.041 U	0.13 U	**0.030**	0.22 U
3/19/2013	0.034 U	0.11 U	**0.24**	**0.49**	NS	NS	NS	NS	0.035 U	0.11 U	**0.033**	**0.57**
3/27-3/28/2013	0.034 U	0.11 U	**0.048**	**0.26**	0 038 U	0.12 U	**0.068**	**0.45**	0.042 U	0.13 U	**0.072**	**0.89**
4/3/2013	0.043 U	0.13 U	**0.040**	**0.33**	NS	NS	NS	NS	0.032 U	0.10 U	**0.038**	**0.91**
4/09-4/11/13	0.041 U	0.13 U	**0.057**	**7.8**	0 046 U	0.14 U	**0.039**	**16**	0.040 U	0.12 U	**0.064**	**11**
4/17/2013	0.039 U	0.12 U	**0.046**	**1.2**	0 041 U	0.13 U	**0.034**	**2.2**	0.036 U	0.11 U	**0.036**	**8.0**
4/24/2013	0.038 U	0.12 U	**0.053**	**0.74**	0 041 U	0.13 U	**0.036**	**0.38**	0.035 U	0.11 U	**0.031**	**0.34**
5/1/2013	0.036 U	0.11 U	**0.046**	**2.8**	0 040 U	0.12 U	**0.036**	**0.92**	0.040 U	0.12 U	0.025 U	0.21 U
5/8/2013	0.040 U	0.12 U	**0.058**	0.21 U	0 034 U	0.11 U	**0.037**	**0.32**	0.049 U	0.15 U	0.031 U	**2.3**
5/15/2013	0.043 U	0.13 U	**0.052**	0.23 U	0 037 U	0.11 U	**0.028**	**0.23**	0.049 U	0.15 U	0.031 U	**0.30**
5/22/2013	0.036 U	0.11 U	**0.072**	**0.20**	0 039 U	0.12 U	0.024 U	**0.27**	0.037 U	0.11 U	0.023 U	**0.22**
5/29/2013	NS	NS	NS	NS	0 046 U	0.14 U	0.029 U	0 24 U	0.044 U	0.14 U	0.028 U	0.23 U
6/5/2013	0.045 U	0.14 U	0.028 U	0.24 U	0 050 U	0.16 U	0.032 U	0 26 U	0.044 U	0.14 U	0.028 U	0.23 U
6/12/2013	NS	NS	NS	NS	0 042 UJ	0.13 UJ	**0.038** J	0 22 UJ	0.046 U	0.14 U	**0.040**	0.24 U
6/19/2013	NS	NS	NS	NS	0 043 U	0.13 U	0.027 U	0 23 U	0.044 U	0.14 U	0.028 U	0.23 U
6/26/2013	0.042 U	0.13 U	**0.080**	0.22 U	0 033 U	0.10 U	**0.026**	0.17 U	NS	NS	NS	NS

TABLE 1
INDOOR AIR ANALYTICAL RESULTS
FORMER HEAVENS SUPPLY COMPANY SITE
SEATTLE, WASHINGTON

	Privacy -Basement (µg/m^3)				Privacy -Tower (µg/m^3)				Church-Basement (µg/m^3)				Heaven Supply-Outside (µg/m^3)			
Sample Date	Vinyl Chloride	cis-1,2-DCE	TCE	PCE	Vinyl Chloride	cis-1,2-DCE	TCE	PCE	Vinyl Chloride	cis-1,2-DCE	TCE	PCE	Vinyl Chloride	cis-1,2-DCE	TCE	PCE
3/5-3/6/2013 (baseline)	0.040 U	0.12 U	**0.025**	0.21 U	0 042 U	0.13 U	0.026 U	0 22 U	0.041 U	0.13 U	**0.028**	0.22 U	0.037 U	0.12 U	**0.079**	**0.23**
3/19/2013	0.035 U	0.11 U	**0.039**	**0.38**	NS	NS	NS	NS	NS	NS	NS	NS	0.036 U	0.11 U	**0.38**	**0.79**
3/27-3/28/2013	0.034 U	0.11 U	**0.026**	**0.19**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
4/3/2013	0.033 U	0.10 U	**0.021**	**0.34**	0 045 U	0.14 U	0.028 U	**0.46**	0.041 U	0.13 U	0.026 U	0.22 U	NS	NS	NS	NS
4/09-4/11/13	0.033 U	0.10 U	**0.15**	**5.7**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
4/17/2013	0.036 U	0.11 U	**0.031**	**1.9**	NS	NS	NS	NS	NS	NS	NS	NS	0.046 U	0.14 U	0.029 U	**3.1**
4/24/2013	0.043 U	0.13 U	**0.030**	**0.23**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
5/1/2013	0.056 U	0.17 U	0.035 U	0.30 U	0 036 U	0.11 U	0.023 U	**0.19**	NS	NS	NS	NS	NS	NS	NS	NS
5/8/2013	0.041 U	0.13 U	**0.040**	**0.30**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
5/15/2013	0.039 U	0.12 U	**0.033**	0.21 U	NS	NS	NS	NS	NS	NS	NS	NS	0.044 U	0.14 U	0.028 U	0.23 U
5/22/2013	0.033 U	0.10 U	**0.095**	0.18 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
5/29/2013	0.040 U	0.12 U	**0.039**	0.21 U	0 043 U	0.13 U	0.027 U	0 23 U	0.042 U	0.13 U	0.026 U	0.22 U	NS	NS	NS	NS
6/5/2013	**0.043**	0.12 U	**0.029**	0.20 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
6/12/2013	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.042 U	0.13 U	**0.039**	0.22 U
6/19/2013	0.041 U	0.13 U	**0.055**	**0.26**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
6/26/2013	0.044 U	0.14 U	**0.054**	**0.25**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

Notes:

April 9/10 sample was not collected at 24-hour mark due to access not provided to the residence for collection. Canister was collected on April 11, and vacuum in canister was equal to ambient; therefore, these results are not representative of a 24-hour sample, but rather ambient conditions at the time of collection.
NS = not sampled

NS = Not analyzed.
U = Indicates the compound was not detected at the reported concentration.
J = Indicates the analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UJ = The analyte was not detected in the sample; the reported sample reporting limit is an estimate.
Bold = Detected compound.
Box = Exceedance of cleanup level.
cis-1,2-DCE = cis-1,2-Dichloroethene
TCE = Trichloroethene
PCE = Tetrachloroethane
µg/m^3 = micrograms per cubic meter

TABLE 2
SOIL VAPOR ANALYTICAL RESULTS
FORMER HEAVENS SUPPLY COMPANY SITE
SEATTLE, WASHINGTON

	SMW-2 (µg/m^3)				SMW-3 (µg/m^3)				SMW-4 (µg/m^3)				VMW-1 (µg/m^3)			
Sample Date	Vinyl Chloride	cis-1,2-DCE	TCE	PCE	Vinyl Chloride	cis-1,2-DCE	TCE	PCE	Vinyl Chloride	cis-1,2-DCE	TCE	PCE	Vinyl Chloride	cis-1,2-DCE	TCE	PCE
2/28/2013	3.1 U	6 8 U	**21**	**260**	3.1 U	6.8 U	**41**	**1,800**	3.1 U	6.8 U	**18**	**460**	3.1 U	6.8 U	**19**	**4,100**
3/6/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3/14/2013	**5.7**	6 8 U	**63**	**300**	3.1 U	6.8 U	**57**	**1,600**	3.1 U	6.8 U	**56**	**520**	3.1 U	6.8 U	**85**	**1,600**
3/19/2013	3.1 U	6 8 U	**140**	**330**	3.1 U	6.8 U	**67**	**1,400**	3.1 U	6.8 U	**52**	**400**	3.1 U	6.8 U	**55**	**360**
3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3/27/2013	3.1 U	6 8 U	**200**	**400**	3.1 U	6.8 U	**210**	**1,800**	3.1 U	6.8 U	**230**	**490**	3.1 U	6.8 U	**290**	**520**
4/2/2013	3.1 U	6 8 U	**290**	**550**	3.1 U	6.8 U	**290**	**2,100**	3.1 U	6.8 U	**310**	**690**	3.1 U	6.8 U	**350**	**340**
4/3/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4/9/2013	3.1 U	6 8 U	5.4 U	**320**	3.1 U	6.8 U	5.4 U	**1,000**	3.1 U	6.8 U	5.4 U	**260**	3.1 U	6.8 U	5.4 U	**190**
4/16/2013	3.1 U	6 8 U	5.4 U	**82**	3.1 U	6.8 U	5.4 U	**700**	3.1 U	6.8 U	5.4 U	**240**	3.1 U	6.8 U	5.4 U	**51**
4/23/2013	3.1 U	6 8 U	5.4 U	**180**	3.1 U	6.8 U	5.4 U	**1,200**	3.1 U	6.8 U	5.4 U	**360**	3.1 U	6.8 U	5.4 U	**15**
4/30/2013	3.1 U	6 8 U	**43**	**240**	3.1 U	6.8 U	5.4 U	**1,000**	3.1 U	6.8 U	**30**	**380**	3.1 U	6.8 U	**36**	**33**
5/3/2013	3.1 U	6 8 U	5.4 U	2.3 U	3.1 U	6.8 U	5.4 U	**530**	3.1 U	6.8 U	5.4 U	**97**	3.1 U	6.8 U	5.4 U	2.3 U
5/7/2013	3.1 U	6 8 U	**35**	**44**	3.1 U	6.8 U	**32**	**2,800**	3.1 U	6.8 U	5.4 U	**770**	3.1 U	6.8 U	**98**	**160**
5/14/2013	0.511 U	0.793 U	1.07 U	**155**	0.511 U	0.793 U	1.07 U	**981**	0.511 U	0.793 U	1.07 U	**346**	0.511 U	0.793 U	1.07 U	2.03 U
5/21/2013	0.511 U	0.793 U	1.07 U	**371**	0.511 U	0.793 U	1.07 U	**1,240**	0.511 U	0.793 U	1.07 U	**338**	0.511 U	0.793 U	1.07 U	**35.5**
5/28/2013	0.511 U	0.793 U	**2.15**	**437**	0.511 U	0.793 U	**3.01**	**994**	0.511 U	0.793 U	1.07 U	**234**	0.511 U	**0.952**	**1.50**	**179**
6/4/2013	0.511 U	0.793 U	**1.07**	**814**	0.511 U	0.793 U	1.07 U	**1,430**	0.511 U	0.793 U	1.07 U	**488**	0.511 U	0.793 U	1.07 U	**256**
6/11/2013	0.511 U	0.793 U	1.07 U	**764**	0.511 U	0.793 U	1.07 U	**1,040**	0.511 U	0.793 U	1.07 U	**289**	0.511 U	0.793 U	1.07 U	**64.0**
6/25/2013	0.511 U	0.793 U	1.07 U	**1,150**	0.511 U	0.793 U	1.07 U	**1,150**	0.511 U	0.793 U	1.07 U	**346**	0.511 U	0.793 U	1.07 U	**96.6**

TABLE 2
SOIL VAPOR ANALYTICAL RESULTS
FORMER HEAVENS SUPPLY COMPANY SITE
SEATTLE, WASHINGTON

	VMW-2 (µg/m^3)				VMW-3 (µg/m^3)				VMW-4 (µg/m^3)				VP-1 (µg/m^3)			
Sample Date	Vinyl Chloride	cis-1,2-DCE	TCE	PCE	Vinyl Chloride	cis-1,2-DCE	TCE	PCE	Vinyl Chloride	cis-1,2-DCE	TCE	PCE	Vinyl Chloride	cis-1,2-DCE	TCE	PCE
2/28/2013	N/A	N/A	N/A	N/A	3.1 U	6.8 U	**75**	**1,500**	3.1 U	6.8 U	**18**	**1,400**	N/A	N/A	N/A	N/A
3/6/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.1 U	6.8 U	**260**	**1,400**
3/14/2013	N/A	N/A	N/A	N/A	**7.8**	6.8 U	**91**	**1,300**	3.1 U	6.8 U	**53**	**1,800**	N/A	N/A	N/A	N/A
3/19/2013	3.1 U	6 8 U	**63**	**110**	**4.6**	6.8 U	**130**	**1,400**	3.1 U	6.8 U	**75**	**640**	N/A	N/A	N/A	N/A
3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.1 U	6.8 U	**62**	**120**
3/27/2013	3.1 U	6 8 U	**200**	**270**	3.1 U	6.8 U	**240**	**1,400**	3.1 U	6.8 U	**200**	**1,500**	3.1 U	6.8 U	**200**	**260**
4/2/2013	3.1 U	6 8 U	**250**	**360**	3.1 U	6.8 U	**360**	**1,700**	3.1 U	6.8 U	**250**	**1,400**	N/A	N/A	N/A	N/A
4/3/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.1 U	6.8 U	**320**	**350**
4/9/2013	3.1 U	6 8 U	5.4 U	**440**	3.1 U	6.8 U	**20**	**1,800**	3.1 U	6.8 U	5.4 U	**300**	3.1 U	6.8 U	5.4 U	**180**
4/16/2013	3.1 U	6 8 U	5.4 U	**23**	3.1 U	**41**	**77**	**1,800**	3.1 U	6.8 U	5.4 U	**1,700**	3.1 U	6.8 U	5.4 U	**18**
4/23/2013	N/A	N/A	N/A	N/A	3.1 U	**44**	5.4 U	**1,000**	3.1 U	6.8 U	5.4 U	**2,100**	3.1 U	6.8 U	5.4 U	**19**
4/30/2013	3.1 U	6 8 U	**240**	**76**	3.1 U	6.8 U	**180**	**1,800**	3.1 U	6.8 U	**54**	**1,900**	3.1 U	6.8 U	**22**	**350**
5/3/2013	3.1 U	6 8 U	5.4 U	2.3 U	3.1 U	6.8 U	5.4 U	**680**	3.1 U	6.8 U	5.4 U	**660**	N/A	N/A	N/A	N/A
5/7/2013	3.1 U	6 8 U	**29**	**93**	3.1 U	**24**	**220**	**2,500**	3.1 U	6.8 U	**86**	**3,300**	3.1 U	6.8 U	**20**	**210**
5/14/2013	0.511 U	0.793 U	1.07 U	2.03 U	0.511 U	**3.17**	**13.8**	**219**	0.511 U	0.793 U	**23.2**	**1,690**	0.511 U	0.793 U	1.07 U	2.03 U
5/21/2013	0.511 U	0.793 U	1.07 U	**22.0**	0.511 U	**16.8**	**92.4**	**1,570**	0.511 U	0.793 U	**25.6**	**2,100**	0.511 U	0.793 U	1.07 U	**9.77**
5/28/2013	0.511 U	0.793 U	**1.93**	**2.71**	0.511 U	**13.5**	**87.7**	**1,580**	0.511 U	**2.38**	**28.2**	**2,210**	0.511 U	0.793 U	1.07 U	**4.34**
6/4/2013	0.511 U	0.793 U	1.07 U	**10.3**	0.511 U	**14.3**	**95.2**	**2,200**	0.511 U	**2.06**	**31.8**	**3,420**	0.511 U	0.793 U	1.07 U	**4.34**
6/11/2013	0.511 U	0.793 U	1.07 U	2.03 U	0.511 U	**17.8**	**95.9**	**1,560**	0.511 U	0.793 U	**34.4**	**2,590**	N/A	N/A	N/A	N/A
6/25/2013	0.511 U	0.793 U	1.07 U	2.03 U	0.511 U	**16.5**	**115**	**2,080**	0.511 U	0.793 U	**44.7**	**2,990**	0.511 U	0.793 U	1.07 U	2.03 U

U = Indicates the compound was not detected at the reported concentration.
J = Indicates the analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UJ = The analyte was not detected in the sample; the reported sample repor ing limit is an estimate.
Bold = Detected compound.
Box = Exceedance of cleanup level.
cis-1,2-DCE = cis-1,2-Dichloroethene
TCE = Trichloroethene
PCE = Tetrachloroethane
µg/m^3 = micrograms per cubic meter

TABLE 3
GROUNDWATER ANALYTICAL RESULTS
FORMER HEAVENS SUPPLY COMPANY SITE
SEATTLE, WASHINGTON

	Shallow Wells			Deep Wells					
	SMW-2 EV13030039-01 03/06/2013	SMW-3 EV13030039-02 03/06/2013	SMW-4 EV13030039-03 03/06/2013	MW-2 EV13030127-04 03/21/2013	Dup of MW-2 DUP EV13030127-02 03/21/2013	MW-2 EV13060095-01 06/18/2013	MW-3 EV13030127-05 03/21/2013	MW-3 EV13060095-02 06/18/2013	MW-4 EV13030127-03 03/21/2013
VOLATILES (µg/L)									
Method EPA 8260B									
Dichlorodifluoromethane	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2 0 U	2.0 U	2.0 U
Chloromethane	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2 0 U	2.0 U	2.0 U
Vinyl Chloride	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Bromomethane	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2 0 U	2.0 U	2.0 U
Chloroethane	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2 0 U	2.0 U	2.0 U
Carbon Tetrachloride	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2 0 U	2.0 U	2.0 U
Trichlorofluoromethane	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2 0 U	2.0 U	2.0 U
Carbon Disulfide	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2 0 U	2.0 U	2.0 U
Acetone	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
1,1-Dichloroethene	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2 0 U	2.0 U	2.0 U
Methylene Chloride	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5 0 U	5.0 U	5.0 U
Acrylonitrile	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl t-butyl ether	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2 0 U	2.0 U	2.0 U
Trans-1,2-Dichloroethene	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2 0 U	2.0 U	2.0 U
1,1-Dichloroethane	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2 0 U	2.0 U	2.0 U
2-Butanone	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Cis-1,2-Dichloroethene	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2 0 U	2.0 U	2.0 U
2,2-Dichloropropane	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2 0 U	2.0 U	2.0 U
Bromochloromethane	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2 0 U	2.0 U	2.0 U
Chloroform	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2 0 U	2.0 U	2.0 U
1,1,1-Trichloroethane	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2 0 U	2.0 U	2.0 U
1,1-Dichloropropene	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2 0 U	2.0 U	2.0 U
1,2-Dichloroethane	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2 0 U	2.0 U	2.0 U
Benzene	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2 0 U	2.0 U	2.0 U
Trichloroethene	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2 0 U	2.0 U	2.0 U
1,2-Dichloropropane	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2 0 U	2.0 U	2.0 U
Dibromomethane	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2 0 U	2.0 U	2.0 U
Bromodichloromethane	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2 0 U	2.0 U	2.0 U
Trans-1,3-Dichloropropene	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2 0 U	2.0 U	2.0 U
4-Me hyl-2-Pentanone	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Toluene	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2 0 U	2.0 U	2.0 U
Cis-1,3-Dichloropropene	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2 0 U	2.0 U	2.0 U
1,1,2-Trichloroethane	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2 0 U	2.0 U	2.0 U
2-Hexanone	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,3-Dichloropropane	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2 0 U	2.0 U	2.0 U
Tetrachloroethylene	**4.4**	**9.8**	**4.2**	2.0 U	2.0 U	2.0 U	2 0 U	2.0 U	2.0 U
Dibromochloromethane	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2 0 U	2.0 U	2.0 U
1,2-Dibromoethane	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Chlorobenzene	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2 0 U	2.0 U	2.0 U
1,1,1,2-Tetrachloroethane	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2 0 U	2.0 U	2.0 U
Ethylbenzene	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2 0 U	2.0 U	2.0 U
m,p-Xylene	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4 0 U	4.0 U	4.0 U

TABLE 3
GROUNDWATER ANALYTICAL RESULTS
FORMER HEAVENS SUPPLY COMPANY SITE
SEATTLE, WASHINGTON

	Shallow Wells			Deep Wells					
	SMW-2 EV13030039-01 03/06/2013	SMW-3 EV13030039-02 03/06/2013	SMW-4 EV13030039-03 03/06/2013	MW-2 EV13030127-04 03/21/2013	Dup of MW-2 DUP EV13030127-02 03/21/2013	MW-2 EV13060095-01 06/18/2013	MW-3 EV13030127-05 03/21/2013	MW-3 EV13060095-02 06/18/2013	MW-4 EV13030127-03 03/21/2013
Styrene	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
o-Xylene	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Bromoform	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Isopropylbenzene	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
1,1,2,2-Tetrachloroethane	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
1,2,3-Trichloropropane	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Bromobenzene	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
n-Propylbenzene	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
2-Chlorotoluene	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
1,3,5-Trimethylbenzene	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
4-Chlorotoluene	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
tert-Butylbenzene	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
1,2,4-Trimethylbenzene	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
s-Butylbenzene	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
p-Isopropyltoluene	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
1,3-Dichlorobenzene	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
1,4-Dichlorobenzene	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
n-Butylbenzene	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
1,2-Dichlorobenzene	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
1,2-Dibromo-3-Chloropropane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,2,4-Trichlorobenzene	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Hexachlorobutadiene	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Naphthalene	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
1,2,3-Trichlorobenzene	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U

TABLE 3
GROUNDWATER ANALYTICAL RESULTS
FORMER HEAVENS SUPPLY COMPANY SITE
SEATTLE, WASHINGTON

	Deep Wells		
	MW-4 EV13060095-03 06/18/2013	MW-5 EV13030127-01 03/21/2013	MW-5 EV13060095-04 06/18/2013
VOLATILES (µg/L)			
Method EPA 8260B			
Dichlorodifluoromethane	2.0 U	2.0 U	2.0 U
Chloromethane	2.0 U	2.0 U	2.0 U
Vinyl Chloride	0.20 U	0.20 U	0.20 U
Bromomethane	2.0 U	2.0 U	2.0 U
Chloroethane	2.0 U	2.0 U	2.0 U
Carbon Tetrachloride	2.0 U	2.0 U	2.0 U
Trichlorofluoromethane	2.0 U	2.0 U	2.0 U
Carbon Disulfide	2.0 U	2.0 U	2.0 U
Acetone	25 U	25 U	25 U
1,1-Dichloroethene	2.0 U	2.0 U	2.0 U
Methylene Chloride	5.0 U	5.0 U	5.0 U
Acrylonitrile	10 U	10 U	10 U
Methyl t-butyl ether	2.0 U	2.0 U	2.0 U
Trans-1,2-Dichloroethene	2.0 U	2.0 U	2.0 U
1,1-Dichloroethane	2.0 U	2.0 U	2.0 U
2-Butanone	10 U	10 U	10 U
Cis-1,2-Dichloroethene	2.0 U	2.0 U	2.0 U
2,2-Dichloropropane	2.0 U	2.0 U	2.0 U
Bromochloromethane	2.0 U	2.0 U	2.0 U
Chloroform	2.0 U	2.0 U	2.0 U
1,1,1-Trichloroethane	2.0 U	2.0 U	2.0 U
1,1-Dichloropropene	2.0 U	2.0 U	2.0 U
1,2-Dichloroethane	2.0 U	2.0 U	2.0 U
Benzene	2.0 U	2.0 U	2.0 U
Trichloroethene	2.0 U	2.0 U	2.0 U
1,2-Dichloropropane	2.0 U	2.0 U	2.0 U
Dibromomethane	2.0 U	2.0 U	2.0 U
Bromodichloromethane	2.0 U	2.0 U	2.0 U
Trans-1,3-Dichloropropene	2.0 U	2.0 U	2.0 U
4-Me hyl-2-Pentanone	10 U	10 U	10 U
Toluene	2.0 U	2.0 U	2.0 U
Cis-1,3-Dichloropropene	2.0 U	2.0 U	2.0 U
1,1,2-Trichloroethane	2.0 U	2.0 U	2.0 U
2-Hexanone	10 U	10 U	10 U
1,3-Dichloropropane	2.0 U	2.0 U	2.0 U
Tetrachloroethylene	2.0 U	2.0 U	2.0 U
Dibromochloromethane	2.0 U	2.0 U	2.0 U
1,2-Dibromoethane	0.010 U	0.010 U	0.010 U
Chlorobenzene	2.0 U	2.0 U	2.0 U
1,1,1,2-Tetrachloroethane	2.0 U	2.0 U	2.0 U
Ethylbenzene	2.0 U	2.0 U	2.0 U
m,p-Xylene	4.0 U	4.0 U	4.0 U

TABLE 3
GROUNDWATER ANALYTICAL RESULTS
FORMER HEAVENS SUPPLY COMPANY SITE
SEATTLE, WASHINGTON

	Deep Wells		
	MW-4 EV13060095-03 06/18/2013	MW-5 EV13030127-01 03/21/2013	MW-5 EV13060095-04 06/18/2013
Styrene	2.0 U	2.0 U	2.0 U
o-Xylene	2.0 U	2.0 U	2.0 U
Bromoform	2.0 U	2.0 U	2.0 U
Isopropylbenzene	2.0 U	2.0 U	2.0 U
1,1,2,2-Tetrachloroethane	2.0 U	2.0 U	2.0 U
1,2,3-Trichloropropane	2.0 U	2.0 U	2.0 U
Bromobenzene	2.0 U	2.0 U	2.0 U
n-Propylbenzene	2.0 U	2.0 U	2.0 U
2-Chlorotoluene	2.0 U	2.0 U	2.0 U
1,3,5-Trimethylbenzene	2.0 U	2.0 U	2.0 U
4-Chlorotoluene	2.0 U	2.0 U	2.0 U
tert-Butylbenzene	2.0 U	2.0 U	2.0 U
1,2,4-Trimethylbenzene	2.0 U	2.0 U	2.0 U
s-Butylbenzene	2.0 U	2.0 U	2.0 U
p-Isopropyltoluene	2.0 U	2.0 U	2.0 U
1,3-Dichlorobenzene	2.0 U	2.0 U	2.0 U
1,4-Dichlorobenzene	2.0 U	2.0 U	2.0 U
n-Butylbenzene	2.0 U	2.0 U	2.0 U
1,2-Dichlorobenzene	2.0 U	2.0 U	2.0 U
1,2-Dibromo-3-Chloropropane	10 U	10 U	10 U
1,2,4-Trichlorobenzene	2.0 U	**3.2**	2.0 U
Hexachlorobutadiene	2.0 U	**2.5**	2.0 U
Naphthalene	2.0 U	**4.0**	2.0 U
1,2,3-Trichlorobenzene	2.0 U	**4.1**	2.0 U

U = Indicates the compound was not detected at he reported concentration.
Bold = Detected compound.

TABLE 4
SVE VAPOR ANALYTICAL RESULTS
FORMER HEAVENS SUPPLY COMPANY SITE
SEATTLE, WASHINGTON

	SVE-North EV13030086-10 03/14/2013	SVE-North EV13030119-08 03/19/2013	SVE-North EV13030152-04 03/27/2013	SVE-Nor h EV13040012-01 04/02/2013	SVE-North EV13040048-04 04/09/2013
VOLATILES (µg/m^3) Method EPA 8260B					
Dichlorodifluoromethane	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Chloromethane	**210**	23 U	23 U	23 U	23 U
Vinyl Chloride	**5.4**	3.1 U	3.1 U	3.1 U	3.1 U
Bromomethane	14 U	14 U	14 U	14 U	14 U
Chloroethane	12 U	12 U	12 U	12 U	12 U
Carbon Tetrachloride	2.5 U	2.5 U	2.5 U	2 5 U	2.5 U
Trichlorofluoromethane	4.5 U	4.5 U	4.5 U	4 5 U	4.5 U
1,1-Dichloroethene	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U
Methylene Chloride	68 U	68 U	**250**	68 U	68 U
Trans-1,2-Dichloroethene	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U
1,1-Dichloroethane	3.0 U	3.0 U	3.0 U	3 U	3 U
Cis-1,2-Dichloroethene	6.8 U	6.8 U	6.8 U	6 8 U	6.8 U
2,2-Dichloropropane	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U
Bromochloromethane	11 U	11 U	11 U	11 U	11 U
Chloroform	**120**	**130**	**140**	14 U	14 U
1,1,1-Trichloroethane	**19**	5.9 U	5.9 U	5 9 U	5.9 U
1,1-Dichloropropene	6.7 U	6.7 U	6.7 U	6.7 U	6.7 U
1,2-Dichloroethane	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U
Trichloroethene	**21**	**68**	**200**	**260**	5.4 U
1,2-Dichloropropane	6.3 U	6.3 U	6.3 U	6 3 U	6.3 U
Dibromomethane	7.1 U	7.1 U	7.1 U	7.1 U	7.1 U
Bromodichloromethane	5.9 U	5.9 U	5.9 U	5 9 U	5.9 U
Trans-1,3-Dichloropropene	5.8 U	5.8 U	5.8 U	5 8 U	5.8 U
Cis-1,3-Dichloropropene	4.8 U	4.8 U	4.8 U	4 8 U	4.8 U
1,1,2-Trichloroethane	5.2 U	5.2 U	5.2 U	5 2 U	5.2 U
1,3-Dichloropropane	6.6 U	6.6 U	6.6 U	6.6 U	6.6 U
Tetrachloroethylene	**400**	**1,700**	**5,300**	**30,000**	**2,600**
Dibromochloromethane	7.4 U	7.4 U	7.4 U	7.4 U	7.4 U
1,2-Dibromoethane	1.0 U	1.0 U	1.0 U	1 U	1 U
Chlorobenzene	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U
1,1,1,2-Tetrachloroethane	8.7 U	8.7 U	8.7 U	8.7 U	8.7 U
Bromoform	5.3 U	5.3 U	5.3 U	5 3 U	5.3 U
1,1,2,2-Tetrachloroethane	2.9 U	2.9 U	2.9 U	2 9 U	2.9 U
1,2,3-Trichloropropane	2.3 U	2.3 U	2.3 U	2 3 U	2.3 U
Bromobenzene	4.1 U	4.1 U	**24**	4.1 U	4.1 U
2-Chlorotoluene	**13**	**19**	3.2 U	3 2 U	**7.3**
4-Chlorotoluene	**9.2**	4.0 U	4.0 U	4 U	4 U
1,3-Dichlorobenzene	4.1 U	4.1 U	4.1 U	**4.9**	4.1 U
1,4-Dichlorobenzene	4.5 U	**8.9**	4.5 U	4 5 U	**8.4**
1,2-Dichlorobenzene	2.8 U	**21**	2.8 U	2 8 U	**12**
1,2-Dibromo-3-Chloropropane	**12**	10 U	10 U	10 U	10 U
1,2,4-Trichlorobenzene	4.7 U	4.7 U	4.7 U	**26**	4.7 U
Hexachlorobutadiene	6.9 U	6.9 U	6.9 U	6 9 U	6.9 U
1,2,3-Trichlorobenzene	4.5 U	**6.3**	4.5 U	4 5 U	4.5 U

TABLE 4
SVE VAPOR ANALYTICAL RESULTS
FORMER HEAVENS SUPPLY COMPANY SITE
SEATTLE, WASHINGTON

	North-SVE EV13050038-01 05/07/2013
VOLATILES (µg/m^3)	
Method EPA 8260B	
Dichlorodifluoromethane	9.4 U
Chloromethane	23 U
Vinyl Chloride	3.1 U
Bromomethane	14 U
Chloroethane	12 U
Carbon Tetrachloride	2.5 U
Trichlorofluoromethane	4.5 U
1,1-Dichloroethene	1.4 U
Methylene Chloride	68 U
Trans-1,2-Dichloroethene	9.7 U
1,1-Dichloroethane	3 U
Cis-1,2-Dichloroethene	6.8 U
2,2-Dichloropropane	4.1 U
Bromochloromethane	11 U
Chloroform	14 U
1,1,1-Trichloroethane	5.9 U
1,1-Dichloropropene	6.7 U
1,2-Dichloroethane	1.4 U
Trichloroethene	5.4 U
1,2-Dichloropropane	6.3 U
Dibromomethane	7.1 U
Bromodichloromethane	5.9 U
Trans-1,3-Dichloropropene	5.8 U
Cis-1,3-Dichloropropene	4.8 U
1,1,2-Trichloroethane	5.2 U
1,3-Dichloropropane	6.6 U
Tetrachloroethylene	**68**
Dibromochloromethane	7.4 U
1,2-Dibromoethane	1 U
Chlorobenzene	2.4 U
1,1,1,2-Tetrachloroethane	8.7 U
Bromoform	5.3 U
1,1,2,2-Tetrachloroethane	2.9 U
1,2,3-Trichloropropane	2.3 U
Bromobenzene	4.1 U
2-Chlorotoluene	3.2 U
4-Chlorotoluene	4 U
1,3-Dichlorobenzene	4.1 U
1,4-Dichlorobenzene	4.5 U
1,2-Dichlorobenzene	2.8 U
1,2-Dibromo-3-Chloropropane	10 U
1,2,4-Trichlorobenzene	4.7 U
Hexachlorobutadiene	6.9 U
1,2,3-Trichlorobenzene	4.5 U

U = Indicates the compound was not detected at he reported concentration.
Bold = Detected compound.

TABLE 5
INFLUENT, MID-POINT, AND EFFLUENT VAPOR ANALYTICAL RESULTS
FORMER HEAVENS SUPPLY COMPANY SITE
SEATTLE, WASHINGTON

	Influent Vapor									Mid-Point Vapor					
	ERH-INF EV13030027-03 3/5/2013	ERH-INF EV13030086-08 3/14/2013	ERH-INF EV13030119-11 3/19/2013	ERH-INF EV13030152-01 3/27/2013	ERH-INF EV13040012-02 4/2/2013	ERH-INF EV13040048-01 4/9/2013	ERH-INF EV13050022-08 5/3/2013	ERH-INF EV13050038-03 05/07/2013	ERH-INF 1306022-001A 6/4/2013	ERH-MID1 EV13030027-02 03/05/2013	ERH-MID2 EV13030086-09 03/14/2013	ERH-MID2 EV13030119-10 03/19/2013	ERH-MID2 EV13030152-02 03/27/2013	ERH-MID2 EV13040012-03 04/02/2013	ERH-MID2 EV13040048-02 04/09/2013
VOLATILES (µg/m^3) **Method EPA 8260B/TO-15**															
Dichlorodifluoromethane	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	1.48 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Chloromethane	23 U	**240**	23 U	23 U	23 U	23 U	**53**	23 U	**9.75**	23 U	**220**	23 U	23 U	23 U	23 U
Vinyl Chloride	3.1 U	3.1 U	3.1 U	3.1 U	3.1 U	3.1 U	3.1 U	3.1 U	0 511 U	3.1 U	3.1 U	3.1 U	3.1 U	3.1 U	3.1 U
Bromomethane	14 U	14 U	14 U	14 U	14 U	14 U	14 U	14 U	NA	14 U	14 U	14 U	14 U	14 U	14 U
Chloroethane	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U	**3.48**	12 U	12 U	12 U	12 U	12 U	12 U
Carbon Tetrachloride	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	1.26 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Trichlorofluoromethane	4.5 U	4.5 U	**21**	4.5 U	4.5 U	4.5 U	4.5 U	4.5 U	1.69 U	4.5 U	4.5 U	4.5 U	4.5 U	4.5 U	4.5 U
1,1-Dichloroethene	1.4 U	1.4 U	**51**	1.4 U	1.4 U	**61**	1.4 U	**13**	0.793 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	**13**
Methylene Chloride	68 U	68 U	68 U	68 U	68 U	68 U	68 U	68 U	NA	68 U	68 U	68 U	**780**	68 U	68 U
Trans-1,2-Dichloroethene	9.7 U	9.7 U	**120**	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	0.793 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U
1,1-Dichloroethane	3.0 U	3.0 U	3.0 U	3.0 U	3 U	3 U	3 U	3 U	0 810 U	3.0 U	3.0 U	3.0 U	3.0 U	3 U	3 U
Cis-1,2-Dichloroethene	6.8 U	**80**	**81**	**69**	6.8 U	**190**	**65**	**70**	**40.0**	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U
2,2-Dichloropropane	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	NA	**10**	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U
Bromochloromethane	11 U	**13**	11 U	11 U	11 U	11 U	11 U	11 U	NA	11 U	11 U	11 U	11 U	11 U	11 U
Chloroform	**110**	**130**	**150**	**160**	14 U	14 U	14 U	14 U	0 977 U	**100**	**120**	**170**	**120**	14 U	14 U
1,1,1-Trichloroethane	5.9 U	5.9 U	5.9 U	5.9 U	5.9 U	5.9 U	5.9 U	5.9 U	1.09 U	**26**	5.9 U	5.9 U	5.9 U	5.9 U	5.9 U
1,1-Dichloropropene	6.7 U	6.7 U	6.7 U	6.7 U	6.7 U	6.7 U	6.7 U	6.7 U	NA	6.7 U	6.7 U	6.7 U	6.7 U	6.7 U	6.7 U
1,2-Dichloroethane	**12**	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	0 809 U	**12**	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U
Trichloroethene	**340**	**79**	**430**	**390**	**470**	**850**	**66**	**360**	**291**	**250**	**25**	**67**	**230**	**330**	5.4 U
1,2-Dichloropropane	6.3 U	6.3 U	6.3 U	6.3 U	6.3 U	6.3 U	6.3 U	6.3 U	2.31 U	6.3 U	6.3 U	6.3 U	6.3 U	6.3 U	6.3 U
Dibromomethane	7.1 U	7.1 U	7.1 U	7.1 U	7.1 U	7.1 U	7.1 U	7.1 U	NA	7.1 U	7.1 U	7.1 U	7.1 U	7.1 U	7.1 U
Bromodichloromethane	5.9 U	5.9 U	5.9 U	5.9 U	5.9 U	5.9 U	5.9 U	5.9 U	2.01 U	5.9 U	5.9 U	5.9 U	5.9 U	5.9 U	5.9 U
Trans-1,3-Dichloropropene	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U	2.27 U	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U
Cis-1,3-Dichloropropene	4.8 U	4.8 U	4.8 U	4.8 U	4.8 U	4.8 U	4.8 U	4.8 U	2.27 U	4.8 U	4.8 U	4.8 U	4.8 U	4.8 U	4.8 U
1,1,2-Trichloroethane	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U	2.73 U	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U
1,3-Dichloropropane	6.6 U	6.6 U	6.6 U	6.6 U	6.6 U	6.6 U	6.6 U	6.6 U	NA	6.6 U	6.6 U	6.6 U	6.6 U	6.6 U	6.6 U
Tetrachloroethylene	**83,000**	**28,000**	**120,000**	**110,000**	**150,000**	**1,100,000**	**55,000**	**42,000**	**8,680**	**130**	**130**	2.3 U	**310**	**370**	**1,100**
Dibromochloromethane	7.4 U	7.4 U	7.4 U	7.4 U	7.4 U	7.4 U	7.4 U	7.4 U	4.26 U	7.4 U	7.4 U	7.4 U	7.4 U	7.4 U	7.4 U
1,2-Dibromoethane	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	NA	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1 U
Chlorobenzene	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	**35**	2.4 U	2.4 U	**4.05**	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U
1,1,1,2-Tetrachloroethane	8.7 U	8.7 U	8.7 U	8.7 U	8.7 U	**160**	8.7 U	8.7 U	NA	8.7 U	8.7 U	8.7 U	8.7 U	8.7 U	8.7 U
Bromoform	5.3 U	5.3 U	5.3 U	5.3 U	5.3 U	5.3 U	5.3 U	5.3 U	NA	5.3 U	5.3 U	5.3 U	5.3 U	5.3 U	5.3 U
1,1,2,2-Tetrachloroethane	2.9 U	2.9 U	2.9 U	2.9 U	2.9 U	2.9 U	2.9 U	2.9 U	2.06 U	2.9 U	2.9 U	2.9 U	2.9 U	2.9 U	2.9 U
1,2,3-Trichloropropane	2.3 U	2.3 U	2.3 U	2.3 U	2.3 U	2.3 U	2.3 U	2.3 U	NA	2.3 U	2.3 U	2.3 U	2.3 U	2.3 U	2.3 U
Bromobenzene	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	NA	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U
2-Chlorotoluene	**53**	3.2 U	3.2 U	**12**	3.2 U	3.2 U	3.2 U	3.2 U	NA	**67**	**17**	3.2 U	3.2 U	3.2 U	3.2 U
4-Chlorotoluene	**20**	4.0 U	**11**	4.0 U	4 U	4 U	**17**	4 U	NA	**18**	**7.3**	4.0 U	4.0 U	4 U	4 U
1,3-Dichlorobenzene	4.1 U	4.1 U	**11**	4.1 U	4.1 U	**12**	**20**	4.1 U	1.80 U	**16**	**17**	**8.3**	4.1 U	**7**	4.1 U
1,4-Dichlorobenzene	4.5 U	**13**	**11**	**12**	4.5 U	**14**	**26**	4.5 U	1.80 U	4.5 U	4.5 U	**8.6**	4.5 U	4.5 U	**16**
1,2-Dichlorobenzene	**26**	2.8 U	2.8 U	2.8 U	2.8 U	**46**	**26**	2.8 U	1.80 U	**27**	2.8 U	2.8 U	2.8 U	**28**	**26**
1,2-Dibromo-3-Chloropropane	10 U	**50**	**320**	10 U	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U
1,2,4-Trichlorobenzene	4.7 U	**23**	4.7 U	**14**	**43**	4.7 U	4.7 U	4.7 U	2.23 U	**32**	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
Hexachlorobutadiene	6.9 U	6.9 U	**36**	**35**	6.9 U	6.9 U	6.9 U	6.9 U	10.7 U	6.9 U	6.9 U	6.9 U	6.9 U	6.9 U	6.9 U
1,2,3-Trichlorobenzene	**35**	4.5 U	4.5 U	4.5 U	4.5 U	4.5 U	4.5 U	4.5 U	NA	**27**	4.5 U	4.5 U	**29**	4.5 U	**27**
CFC-113 (1,1,2-Trichloro-1,2,2-trifluoroethane)	NA	NA	NA	NA	NA	NA	NA	NA	3.83 U	NA	NA	NA	NA	NA	NA
Benzyl chloride	NA	NA	NA	NA	NA	NA	NA	NA	2.59 U	NA	NA	NA	NA	NA	NA
Dichlorotetrafluoroethane (CFC-114)	NA	NA	NA	NA	NA	NA	NA	NA	3.50 U	NA	NA	NA	NA	NA	NA

TABLE 5
INFLUENT, MID-POINT, AND EFFLUENT VAPOR ANALYTICAL RESULTS
FORMER HEAVENS SUPPLY COMPANY SITE
SEATTLE, WASHINGTON

	Mid-Point Vapor		Effluent Vapor							
	ERH-MID2 EV13050038-04 05/07/2013	ERH-MID2 1306022-003A 6/4/2013	ERH-EFF EV13030027-01 03/05/2013	ERH-EFF EV13030086-07 3/14/2013	ERH-EFF EV13030119-09 03/19/2013	ERH-EFF EV13030152-03 03/27/2013	ERH-EFF EV13040012-04 04/02/2013	ERH-EFF EV13040048-03 04/09/2013	ERH-EFF EV13050038-02 05/07/2013	ERH-EFF 1306022-002A 6/4/2013
VOLATILES (µg/m^3)										
Method EPA 8260B/TO-15										
Dichlorodifluoromethane	9.4 U	1.48 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	**3.46**
Chloromethane	23 U	**12.9**	23 U	**220**	23 U	23 U	23 U	23 U	23 U	**13.4**
Vinyl Chloride	3.1 U	0.511 U	3.1 U	**33**	3.1 U	3.1 U	3.1 U	3.1 U	3.1 U	0.511 U
Bromomethane	14 U	NA	14 U	14 U	14 U	14 U	14 U	14 U	14 U	NA
Chloroethane	12 U	1.32 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U	1.32 U
Carbon Tetrachloride	2.5 U	1.26 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2 5 U	1.26 U
Trichlorofluoromethane	4.5 U	1.69 U	4.5 U	4.5 U	4.5 U	4.5 U	4.5 U	4.5 U	4 5 U	1.69 U
1,1-Dichloroethene	1.4 U	**103**	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	**5.71**
Methylene Chloride	68 U	NA	68 U	68 U	68 U	**230**	68 U	68 U	68 U	NA
Trans-1,2-Dichloroethene	9.7 U	0.793 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	0.793 U
1,1-Dichloroethane	3 U	0.810 U	3.0 U	3.0 U	3.0 U	3.0 U	3 U	3 U	3 U	0.810 U
Cis-1,2-Dichloroethene	6.8 U	**11.7**	6.8 U	**20**	**100**	6.8 U	6.8 U	6.8 U	6 8 U	**7.22**
2,2-Dichloropropane	4.1 U	NA	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	NA
Bromochloromethane	11 U	NA	11 U	11 U	11 U	11 U	11 U	11 U	11 U	NA
Chloroform	14 U	0.977 U	**110**	**120**	**130**	**140**	14 U	14 U	14 U	0.977 U
1,1,1-Trichloroethane	5.9 U	1.09 U	**29**	5.9 U	5.9 U	5.9 U	5.9 U	5.9 U	5 9 U	1.09 U
1,1-Dichloropropene	6.7 U	NA	6.7 U	6.7 U	6.7 U	6.7 U	6.7 U	6.7 U	6.7 U	NA
1,2-Dichloroethane	1.4 U	0.809 U	**17**	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	**1.94**
Trichloroethene	**45**	1.07 U	**430**	**28**	**78**	**200**	**220**	5.4 U	5.4 U	**8.28**
1,2-Dichloropropane	6.3 U	2.31 U	6.3 U	6.3 U	6.3 U	6.3 U	6.3 U	6.3 U	6 3 U	2.31 U
Dibromomethane	7.1 U	NA	7.1 U	7.1 U	7.1 U	7.1 U	7.1 U	7.1 U	7.1 U	NA
Bromodichloromethane	5.9 U	2.01 U	5.9 U	5.9 U	5.9 U	5.9 U	5.9 U	5.9 U	5 9 U	2.01 U
Trans-1,3-Dichloropropene	5.8 U	2.27 U	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U	5 8 U	2.27 U
Cis-1,3-Dichloropropene	4.8 U	2.27 U	4.8 U	4.8 U	4.8 U	4.8 U	4.8 U	4.8 U	4 8 U	2.27 U
1,1,2-Trichloroethane	5.2 U	2.73 U	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U	5 2 U	2.73 U
1,3-Dichloropropane	6.6 U	NA	6.6 U	6.6 U	6.6 U	6.6 U	6.6 U	6.6 U	6.6 U	NA
Tetrachloroethylene	**520**	2.03 U	**160**	2.3 U	**100**	**330**	**370**	**520**	2 3 U	**24.0**
Dibromochloromethane	7.4 U	4.26 U	7.4 U	7.4 U	7.4 U	7.4 U	7.4 U	7.4 U	7.4 U	4.26 U
1,2-Dibromoethane	1 U	NA	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	NA
Chlorobenzene	2.4 U	0.921 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	**2.12**
1,1,1,2-Tetrachloroethane	8.7 U	NA	8.7 U	8.7 U	8.7 U	8.7 U	8.7 U	8.7 U	8.7 U	NA
Bromoform	5.3 U	NA	5.3 U	5.3 U	5.3 U	5.3 U	5.3 U	5.3 U	5 3 U	NA
1,1,2,2-Tetrachloroethane	2.9 U	2.06 U	2.9 U	2.9 U	2.9 U	2.9 U	2.9 U	2.9 U	2 9 U	2.06 U
1,2,3-Trichloropropane	2.3 U	NA	2.3 U	2.3 U	2.3 U	2.3 U	2.3 U	2.3 U	2 3 U	NA
Bromobenzene	4.1 U	NA	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	NA
2-Chlorotoluene	**37**	NA	**130**	**17**	**21**	3.2 U	3.2 U	3.2 U	3 2 U	NA
4-Chlorotoluene	4 U	NA	**22**	**12**	4.0 U	4.0 U	4 U	4 U	4 U	NA
1,3-Dichlorobenzene	4.1 U	1.80 U	**20**	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	1.80 U
1,4-Dichlorobenzene	4.5 U	1.80 U	**27**	**12**	4.5 U	**17**	4.5 U	4.5 U	4 5 U	1.80 U
1,2-Dichlorobenzene	2.8 U	1.80 U	**43**	**25**	2.8 U	2.8 U	2.8 U	**11**	2 8 U	1.80 U
1,2-Dibromo-3-Chloropropane	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	NA
1,2,4-Trichlorobenzene	4.7 U	2.23 U	**43**	4.7 U	**26**	4.7 U	4.7 U	**18**	4.7 U	2.23 U
Hexachlorobutadiene	6.9 U	10.7 U	6.9 U	6.9 U	6.9 U	6.9 U	6.9 U	6.9 U	6 9 U	10.7 U
1,2,3-Trichlorobenzene	4.5 U	NA	4.5 U	4.5 U	4.5 U	4.5 U	4.5 U	4.5 U	4 5 U	NA
CFC-113 (1,1,2-Trichloro-1,2,2-trifluoroethane)	NA	3.83 U	NA	NA	NA	NA	NA	NA	NA	3.83 U
Benzyl chloride	NA	2.59 U	NA	NA	NA	NA	NA	NA	NA	2.59 U
Dichlorotetrafluoroethane (CFC-114)	NA	3.50 U	NA	NA	NA	NA	NA	NA	NA	3.50 U

U = Indicates the compound was not detected at the reported concentration.
Bold = Detected compound.

ATTACHMENT 1

TRS Electrical Resistance Heating Weekly Status Reports for May 27 to July 1, 2013

TRS Group, Inc.
PO Box 737
Longview, WA 98632
www.thermalrs.com

June 5, 2013

Ms. Mindy DeYoung
Riddell Williams P.S.
1001 Fourth Avenue, Suite 4500
Seattle, WA 98154-1192

Subject: Electrical Resistance Heating Weekly Status Report
May 27, 2013 to June 3, 2013
Heavens Supply Site
7009 Greenwood Avenue, Seattle, Washington 98103

Dear Ms. DeYoung,

This status report presents a summary of the Electrical Resistance Heating (ERH) related activities at 7009 Greenwood Avenue, Seattle, Washington (Site). The time period addressed in this report is from May 27, 2013 through June 3, 2013. A summary of field activities, ERH system status, and upcoming work are presented in the following sections.

ERH Application Summary

The key ERH system operational parameters for the reporting period are presented in **Table 1**, which includes data from the previous reporting period for comparison.

Table 1. ERH System Operating Parameters

ERH System Parameters	June 3, 2013	May 27, 2013
Weekly Average Power (kW)	825	1,058
Cumulative Energy Applied (kWh)	1,233,652	1,095,010
Average Subsurface Temperature (°C)	93.9	90.4
Average Vapor System Flow Rate (scfm)	686	685

TRS personnel were onsite throughout the reporting period. Tasks accomplished during the reporting period included:

- Daily collection of ERH system operation data and optimization of system performance.
- Completed routine equipment maintenance activities.
- Collected weekly vacuum readings from all available VR piping headers.
- Collected vacuum readings from each of the nine vacuum control points (VCPs) as well as from each side of the newly installed vent/block/vent utility abandonment.

The vapor recovery and vapor abatement systems operated within design parameters and in compliance with the Puget Sound Clean Air Agency (PSCAA) air permit conditions during the reporting period.

Treatment Region Temperatures

Treatment region temperatures are monitored at twelve temperature monitoring points (TMPs) containing thermocouples arrayed vertically. The average subsurface temperature for the site prior to the initial start of power application was 16.4 degrees Celsius (°C). The average subsurface temperature at the end of this reporting period was 93.9ºC, an increase of 77.5ºC since the start of operations and an increase of 3.5ºC within this reporting period. The highest observed subsurface temperature for this reporting period was 106.2ºC, at a depth of 12 feet below grade surface (ft bgs) at TMP D7 on May 30, 2013.

For the purpose of adequately illustrating the temperature change, the data was segregated into twelve separate graphs based on the TMP location. Temperatures relative to depth for each TMP are presented in **Figures 2a** through **2l.** Average subsurface temperature over time is presented in **Figure 3**.

Power and Energy

The PCU averaged 825 kilowatts (kW) of applied power to the treatment volume during the reporting period. A total of 1,233,652 kilowatt-hours (kWh) of energy have been applied to the subsurface as of June 3, 2013. This is approximately 41% of the design energy input.

ERH Vapor Recovery and Mass Removal

The vapor stream flow rate as measured after the vapor recovery blower averaged 686 standard cubic feet per minute (scfm) throughout the operating period.

Vapor samples are collected with the other operational data and analyzed onsite using a photo ionization detector (PID) as well as by laboratory analysis. This data and information is used to measure system performance (i.e. pounds of contaminant removed), air permit compliance, and are also factored into future system operations and adjustments. **Table 2** presents the cumulative recovery rate and estimated removed volatile organic compound (VOC) mass based on influent analytical data collected through May 7, 2013. **Figure 4** presents a graph of the cumulative VOC mass removed over time for both analytical data as well as PID field screening. As of May 7, 2013 the estimated total mass recovered is 864 pounds of VOCs.

Planned Activities

TRS personnel will visit the site the week of June 3, 2013 to continue full time operations of the ERH system.

Should you have any questions concerning this report, or if you would like any additional information, please contact either me or Lynette Stauch by phone at (720) 940-4885 and (505) 281-9553, respectively.

Sincerely,

TRS Group, Inc.

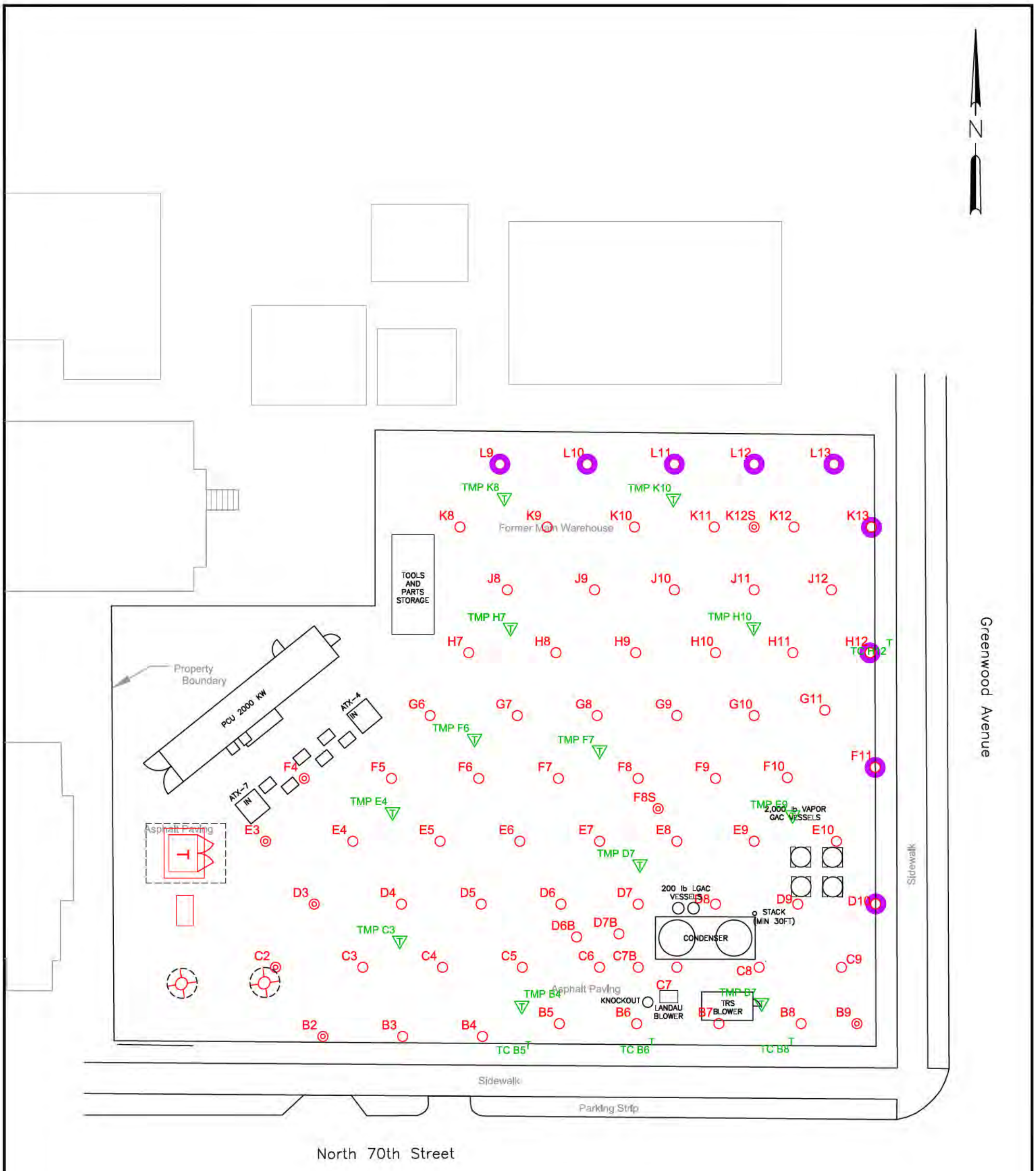
Jeff Brink

Project Manager

Attachments: Figure 1 – Site Plan
Table 2 – Mass Removed
Figure 2a – TMP B4 Temperature vs. Depth
Figure 2b – TMP B7 Temperature vs. Depth
Figure 2c – TMP C3 Temperature vs. Depth
Figure 2d – TMP D7 Temperature vs. Depth
Figure 2e – TMP E4 Temperature vs. Depth
Figure 2f – TMP E9 Temperature vs. Depth
Figure 2g – TMP F6 Temperature vs. Depth
Figure 2h – TMP F7 Temperature vs. Depth
Figure 2i – TMP H7 Temperature vs. Depth
Figure 2j – TMP H10 Temperature vs. Depth
Figure 2k – TMP K8 Temperature vs. Depth
Figure 2l – TMP K10 Temperature vs. Depth
Figure 3 – Average Subsurface Temperature vs. Time
Figure 4 – Cumulative Mass Removed

cc: Lynette Stauch, TRS
Piper Roelen, Landau
Tim Warner, TRS

ATTACHMENTS



LEGEND

- DEEP ELECTRODE (56)
- DUAL DEEP ELECTRODE (9)
- SHALLOW ELECTRODE (8)
- TEMPERATURE MONITORING POINT (12)
- T THERMOCOUPLE (4)

0' 20' 40'

TRS Accelerating Value

DESIGNED BY C. CROWNOVER	FOR HEAVEN SUPPLY, SEATTLE, WASHINGTON
DRAWN BY C. CROWNOVER	
CHECKED BY TRS	ERH SYSTEM DESIGN
PROJECT MANAGER J. BRINK	
APPROVED FOR IMPLEMENTATION BY _____ FOR _____ DATE	DATE 12/06/11 · PROJECT SEA19 · SHEET FIGURE 1

Table 2. ERH System VOC Mass Removal (based on analytical data)

Date	Mass Removed (lb)	Total Mass Removed (lb)
3-5-13	9	9
3-14-13	21	30
3-19-13	18	48
3-27-13	38	87
4-2-13	39	126
4-9-13	335	461
5-3-13	393	854
5-7-13	10	864

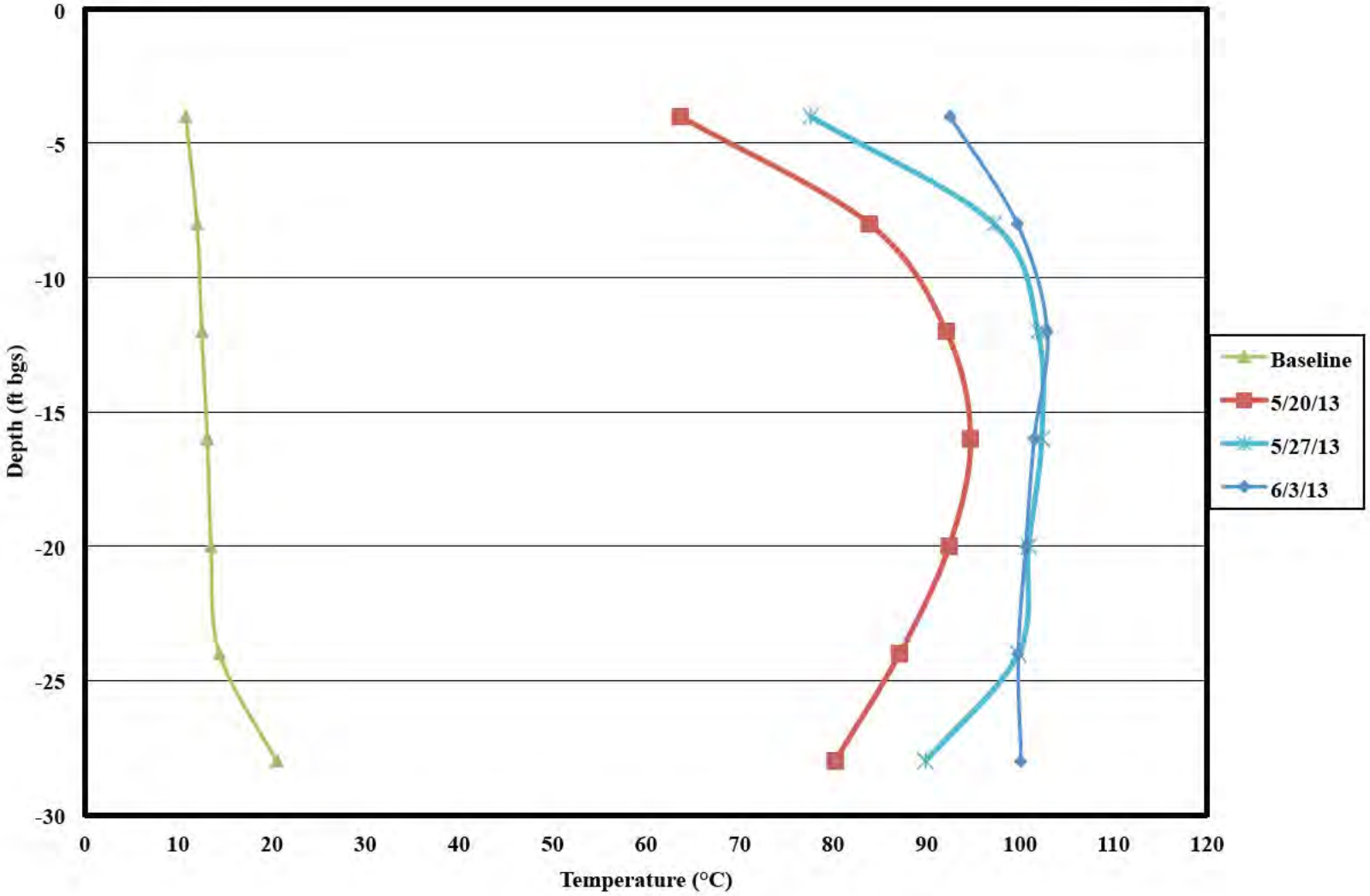


Figure 2a. TMP B4 Temperature vs. Depth

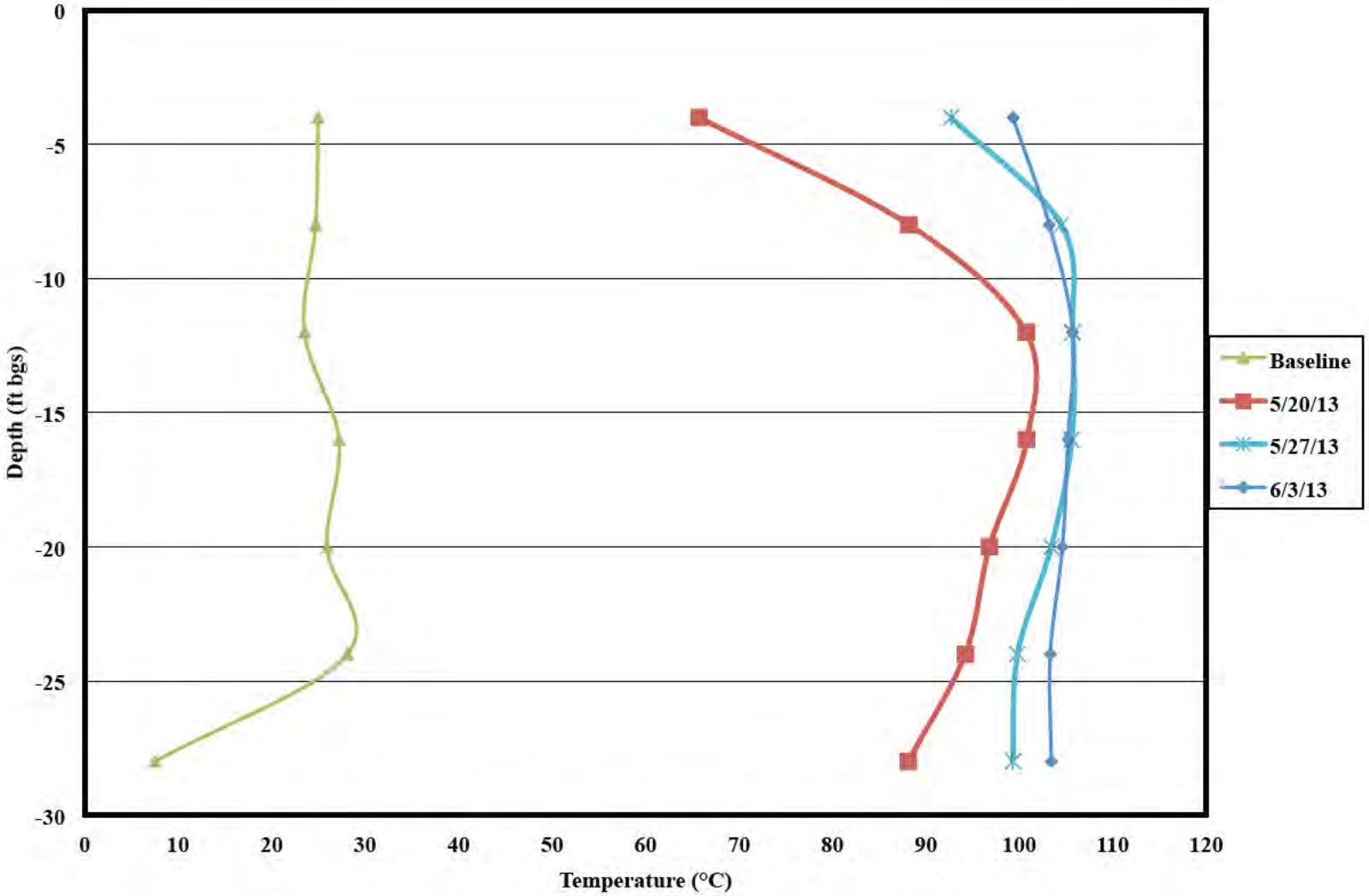


Figure 2b. TMP B7 Temperature vs. Depth

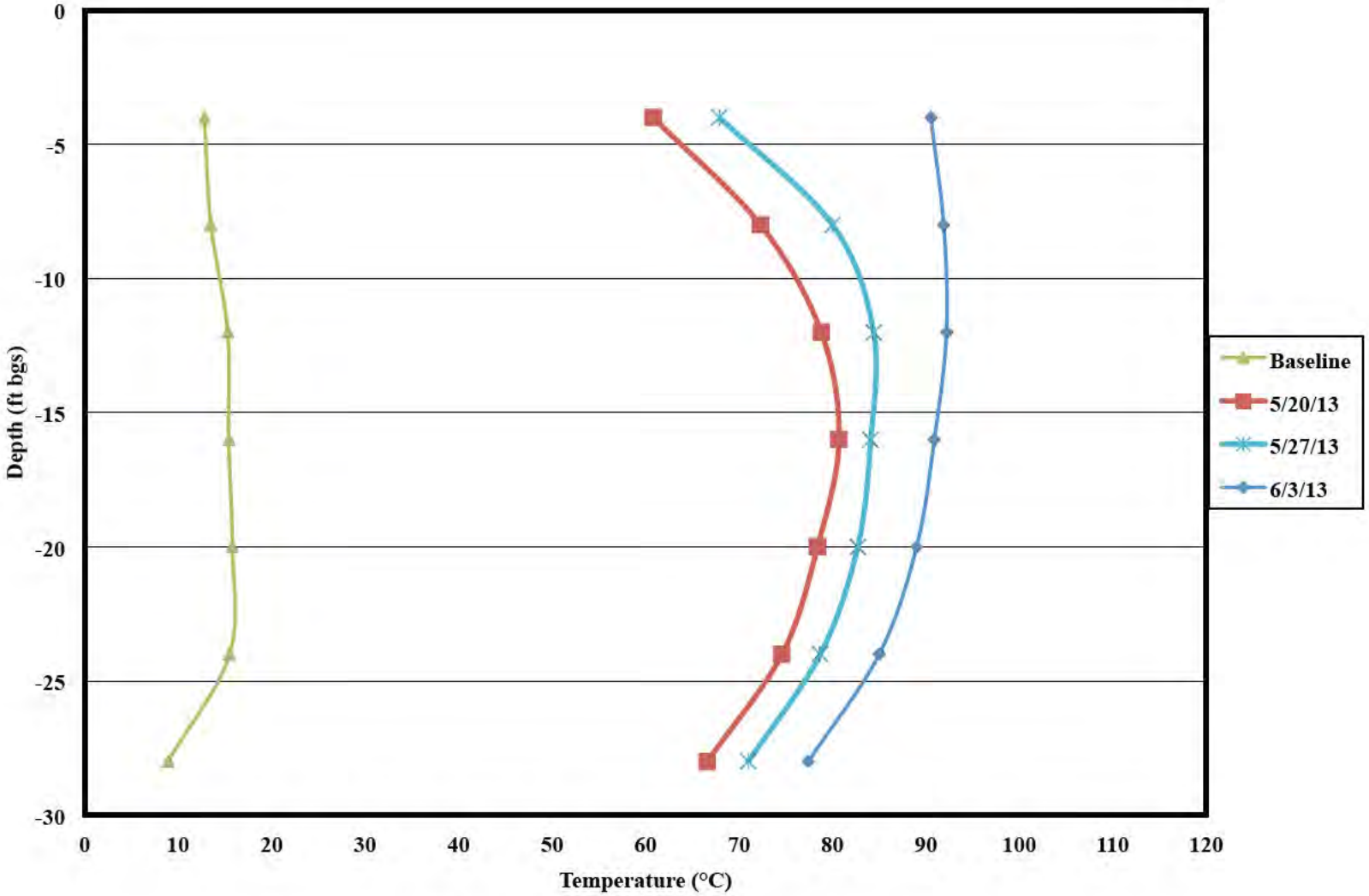


Figure 2c. TMP C3 Temperature vs. Depth

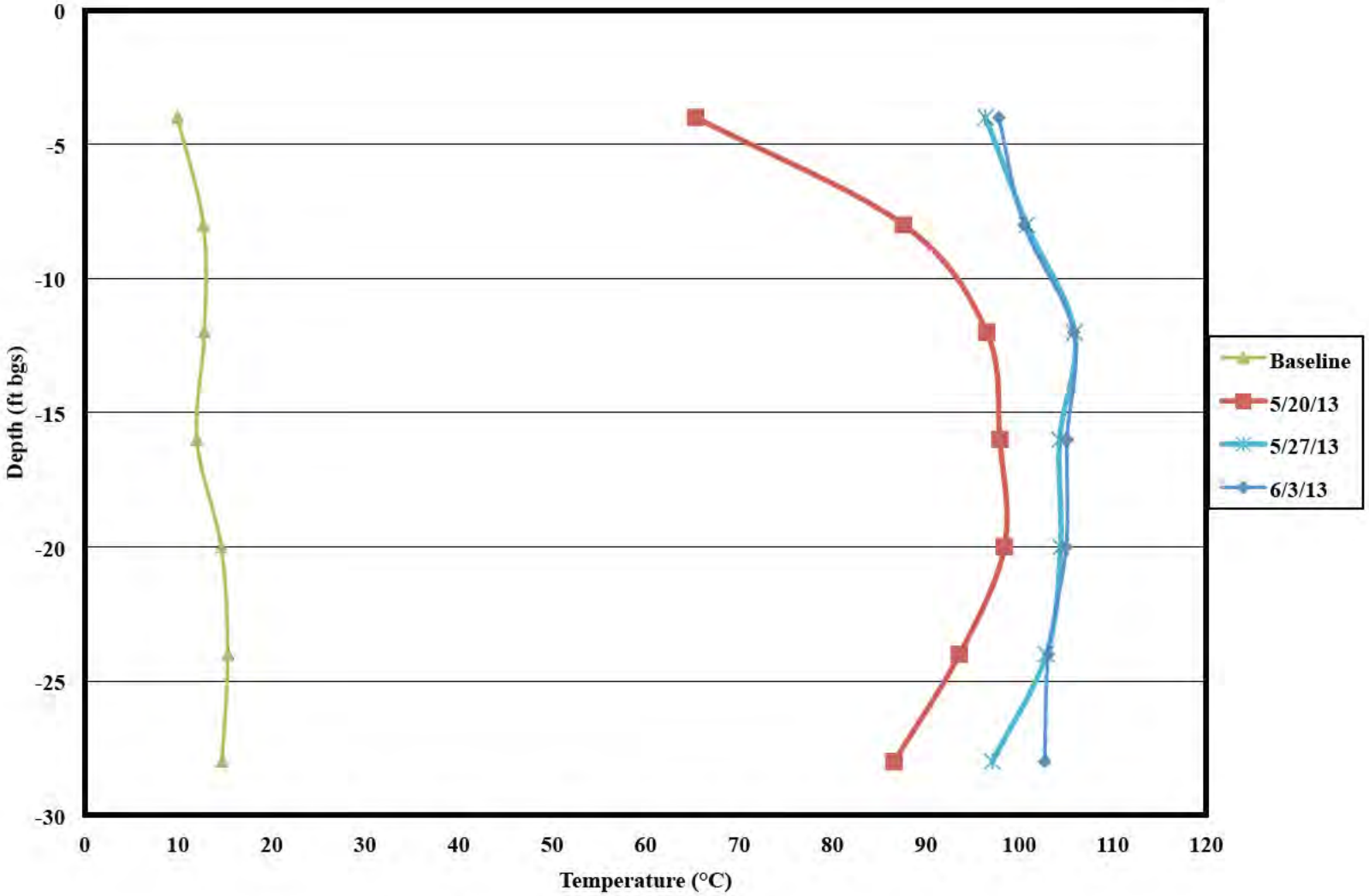


Figure 2d. TMP D7 Temperature vs. Depth

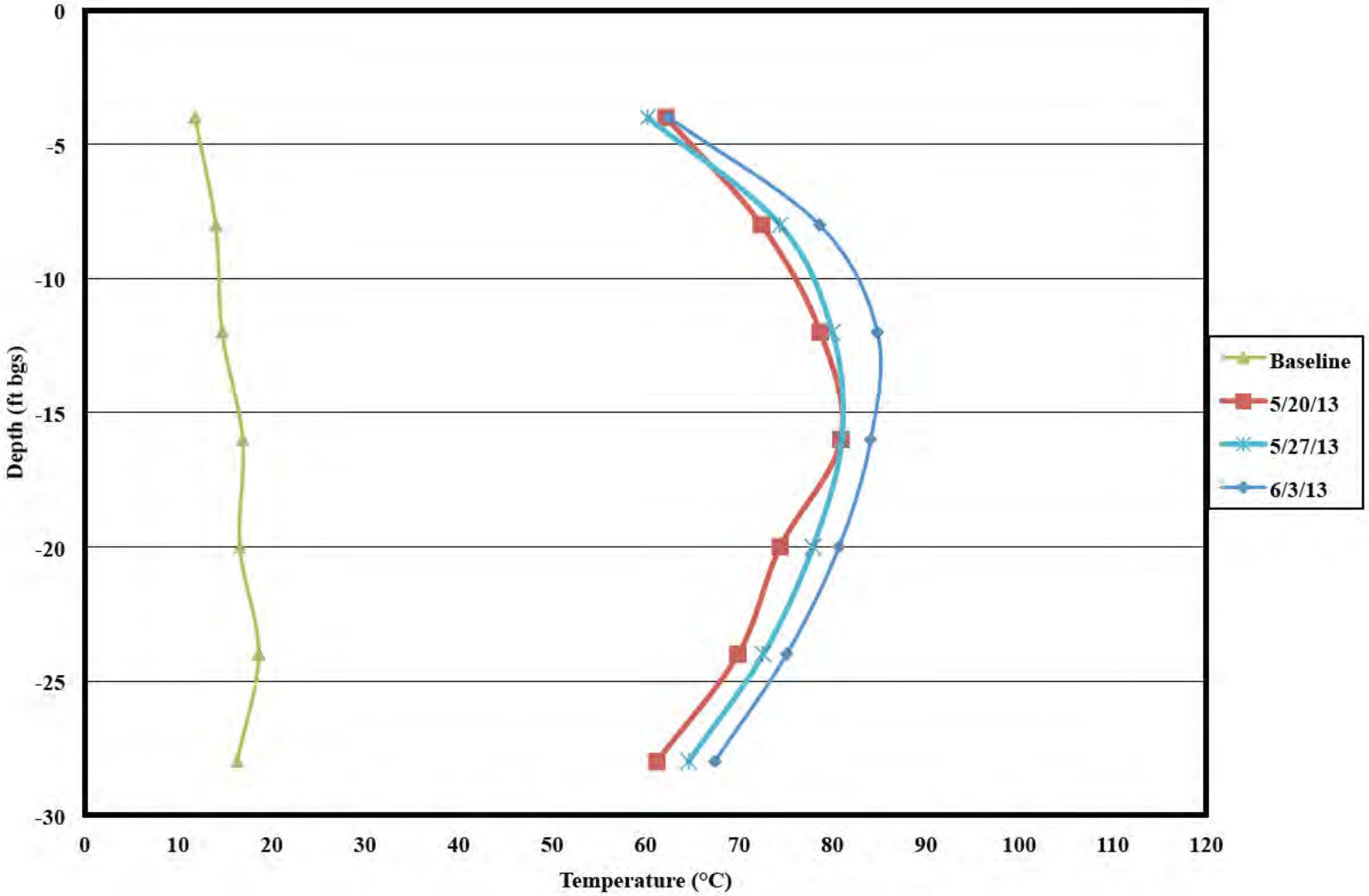


Figure 2e. TMP E4 Temperature vs. Depth

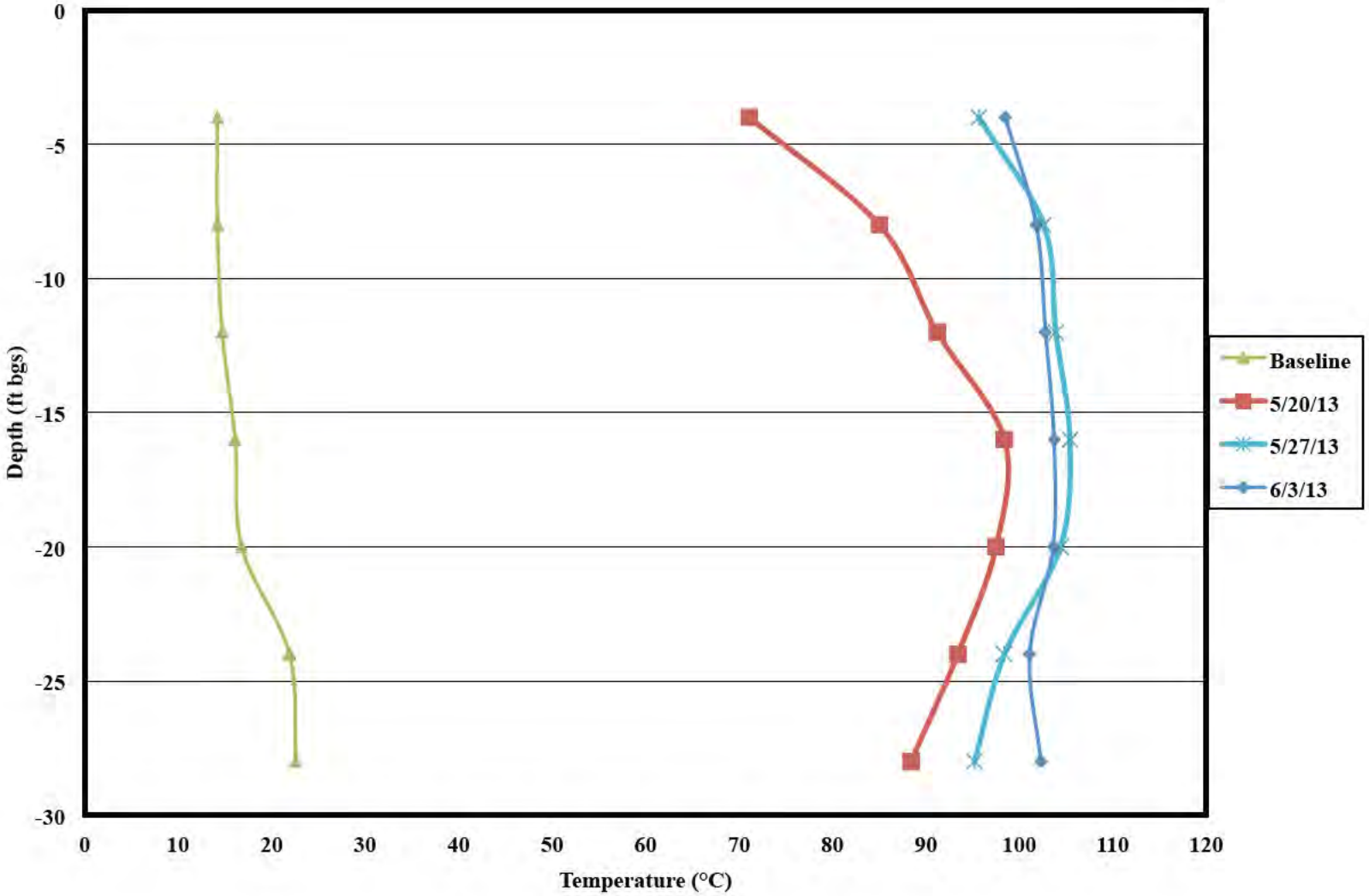


Figure 2f. TMP E9 Temperature vs. Depth

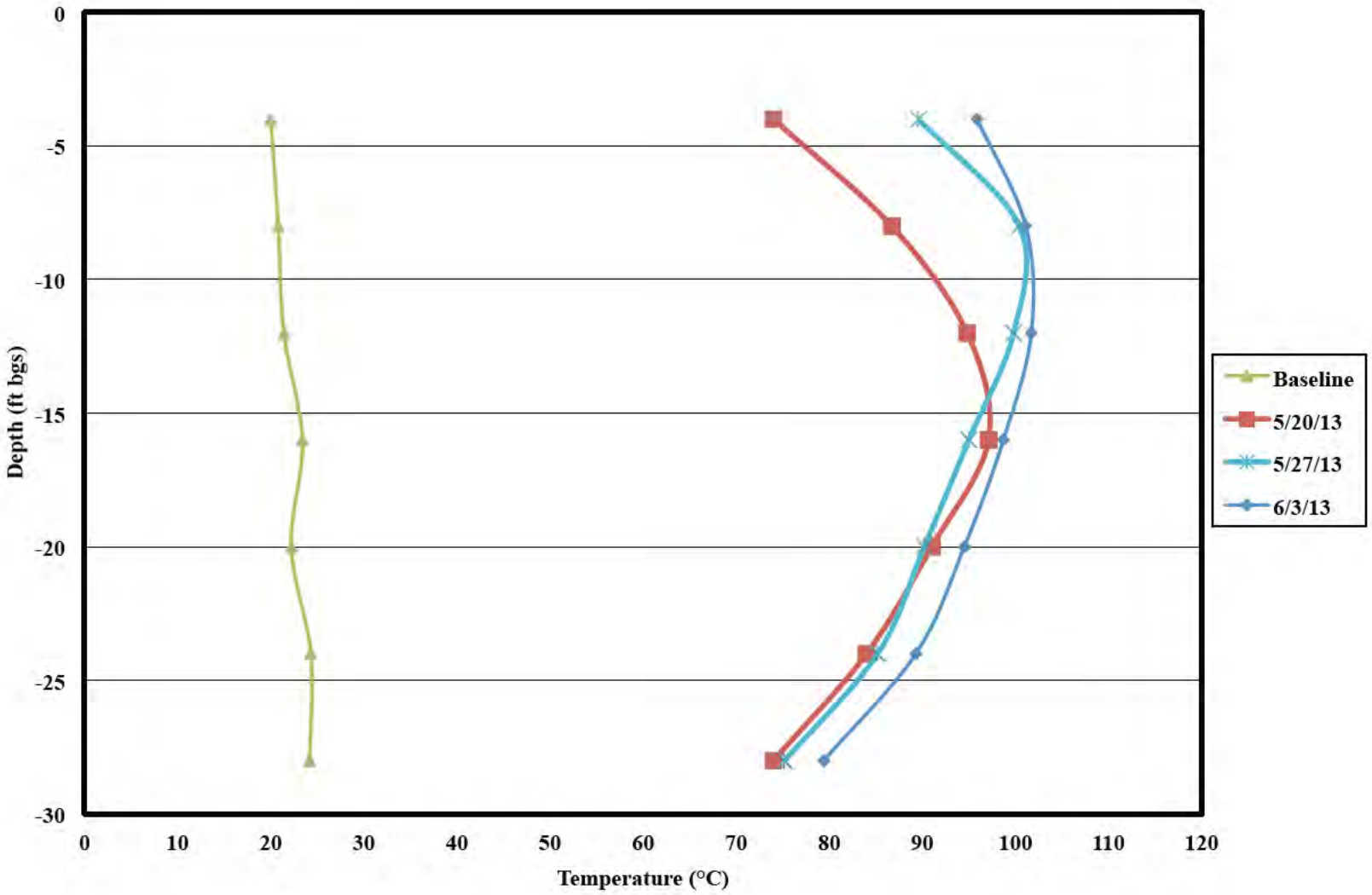


Figure 2g. TMP F6 Temperature vs. Depth

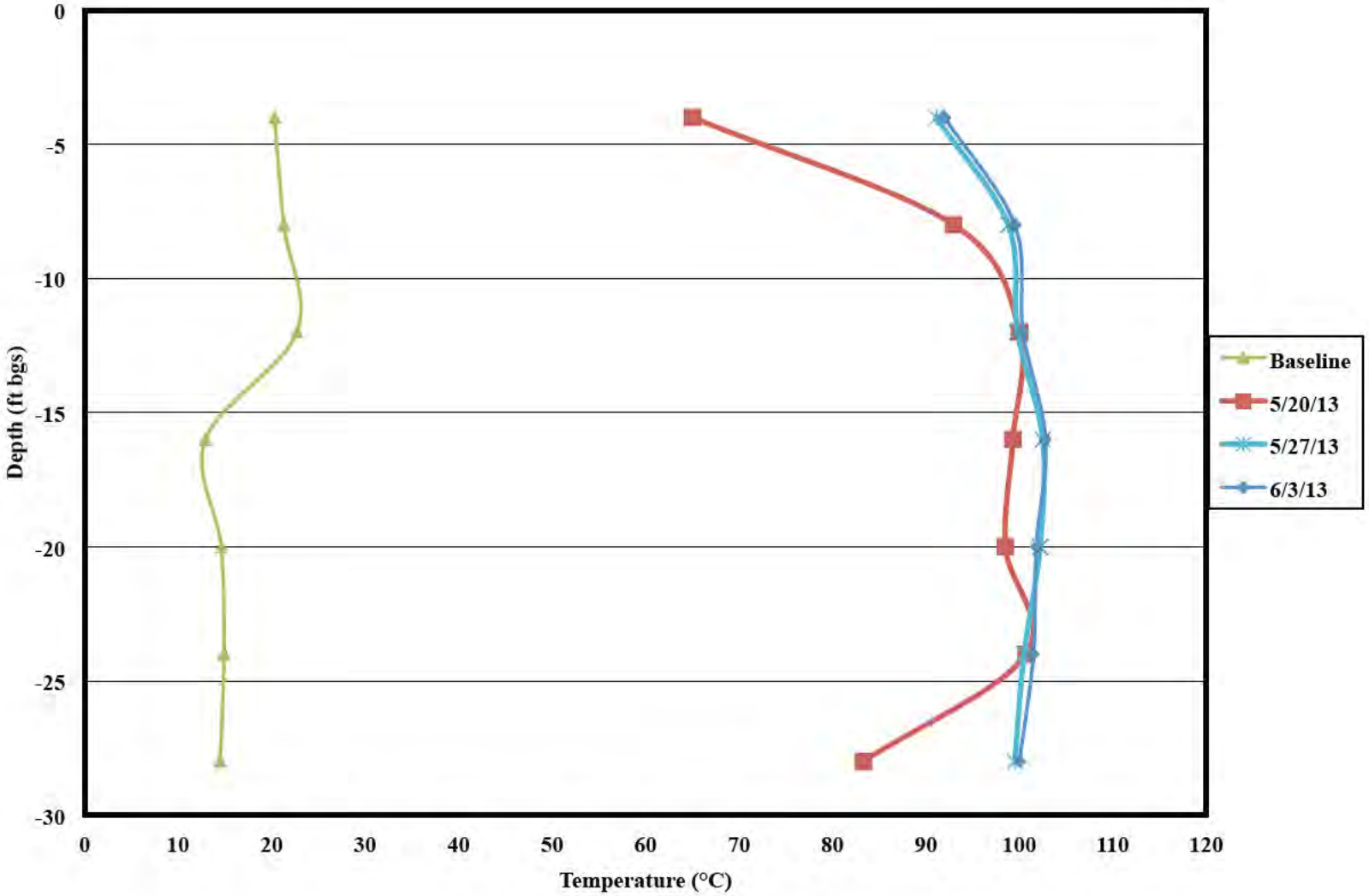


Figure 2h. TMP F7 Temperature vs. Depth

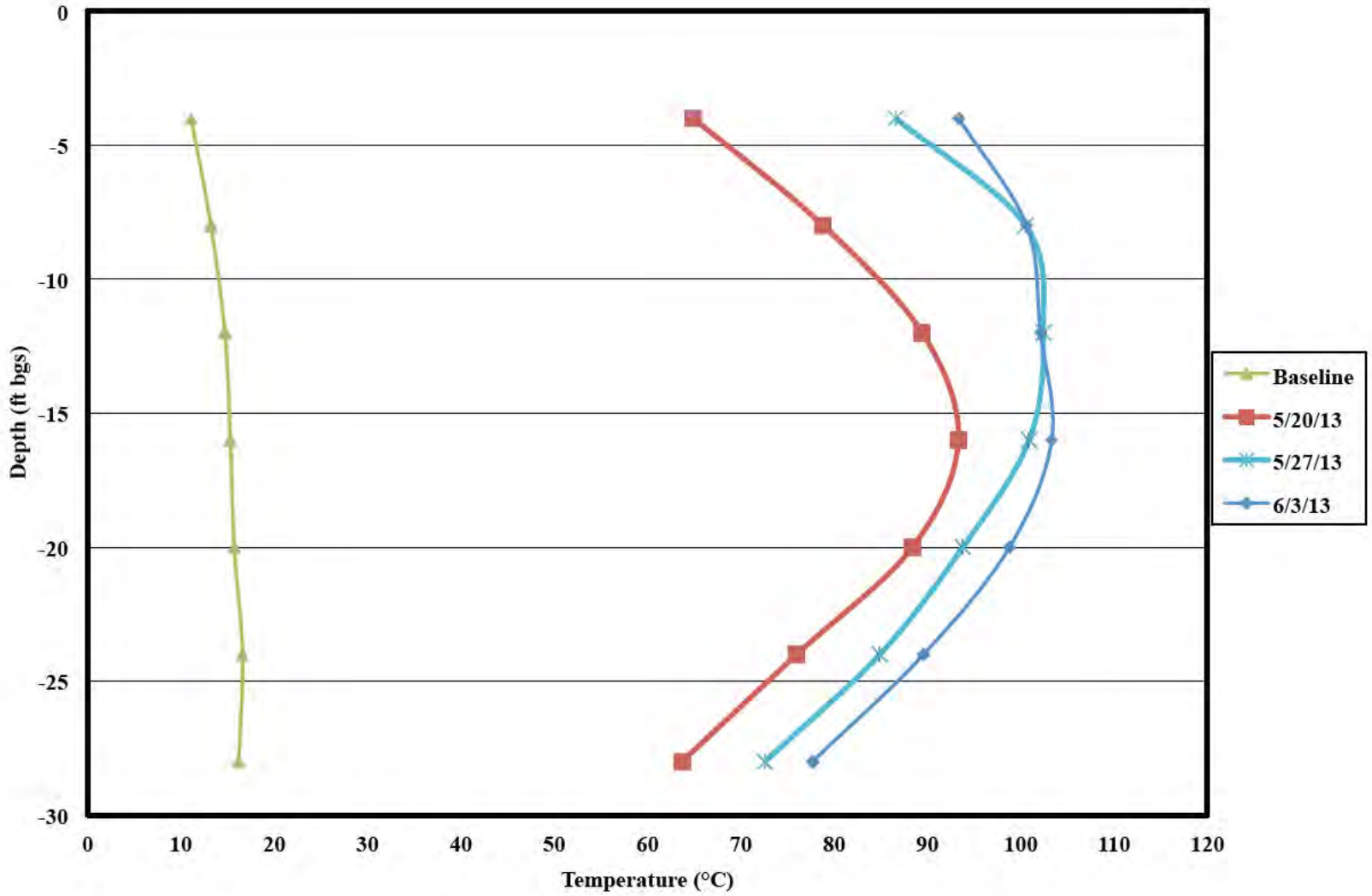


Figure 2i. TMP H7 Temperature vs. Depth

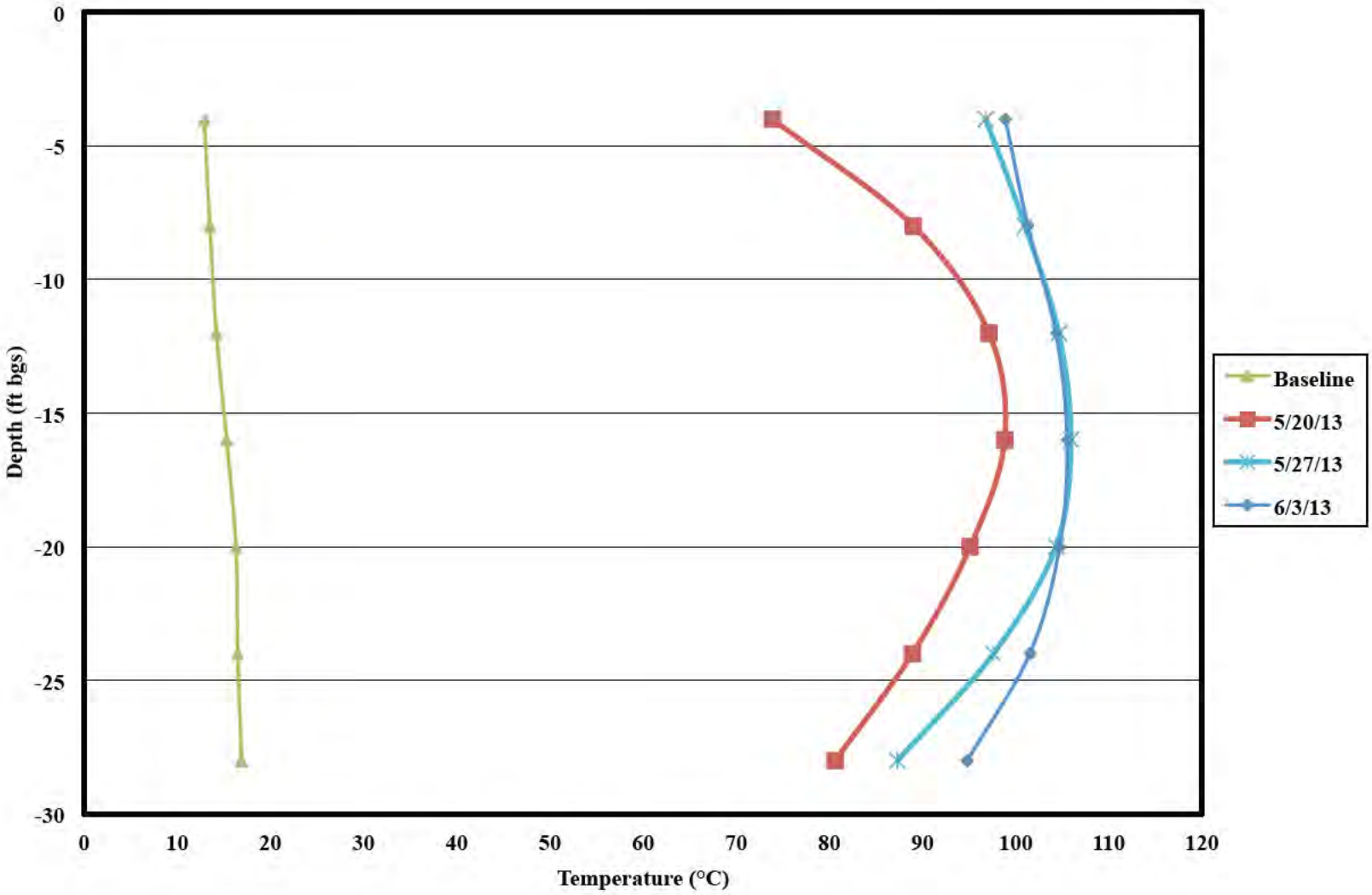


Figure 2j. TMP H10 Temperature vs. Depth

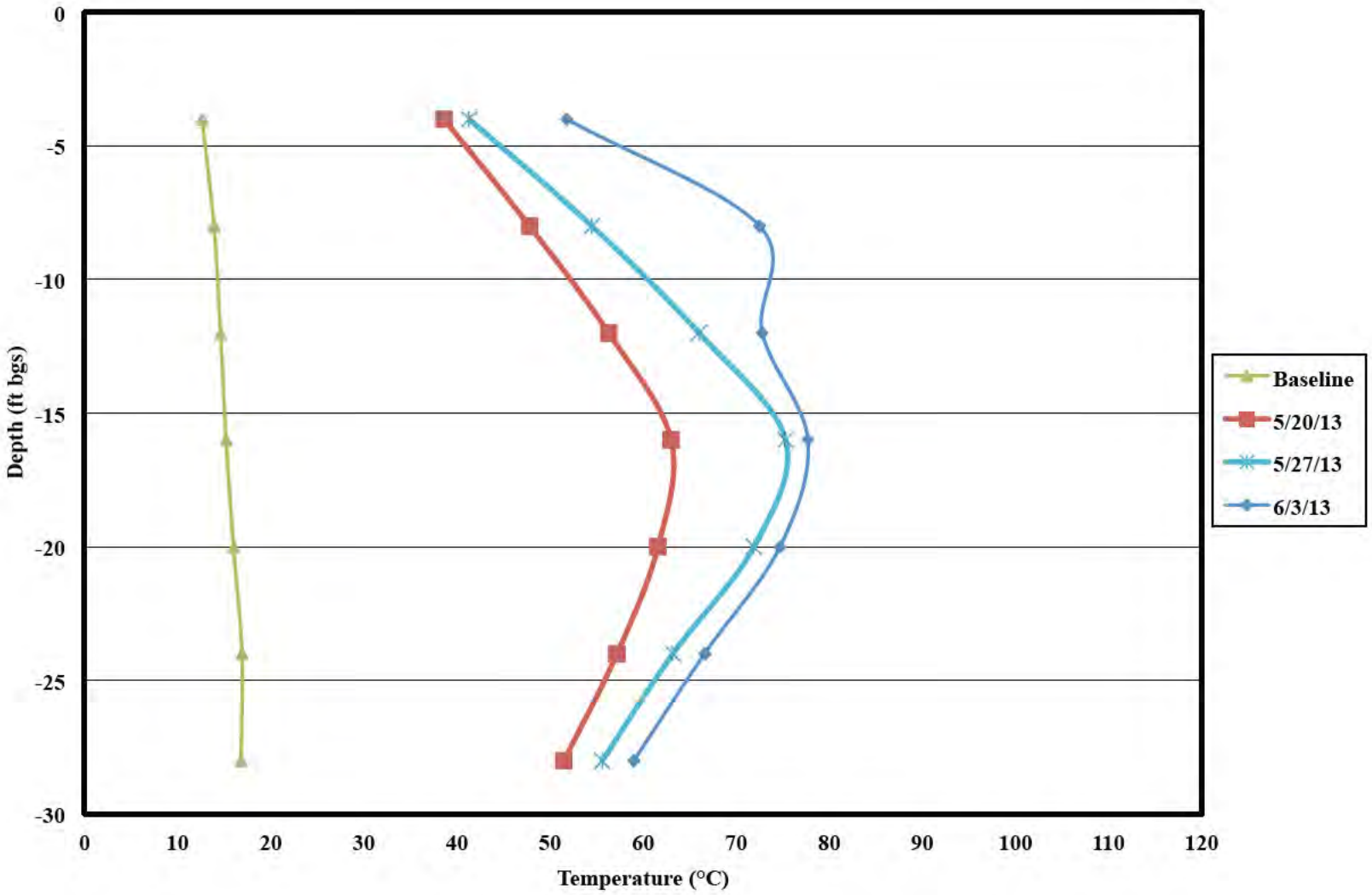


Figure 2k. TMP K8 Temperature vs. Depth

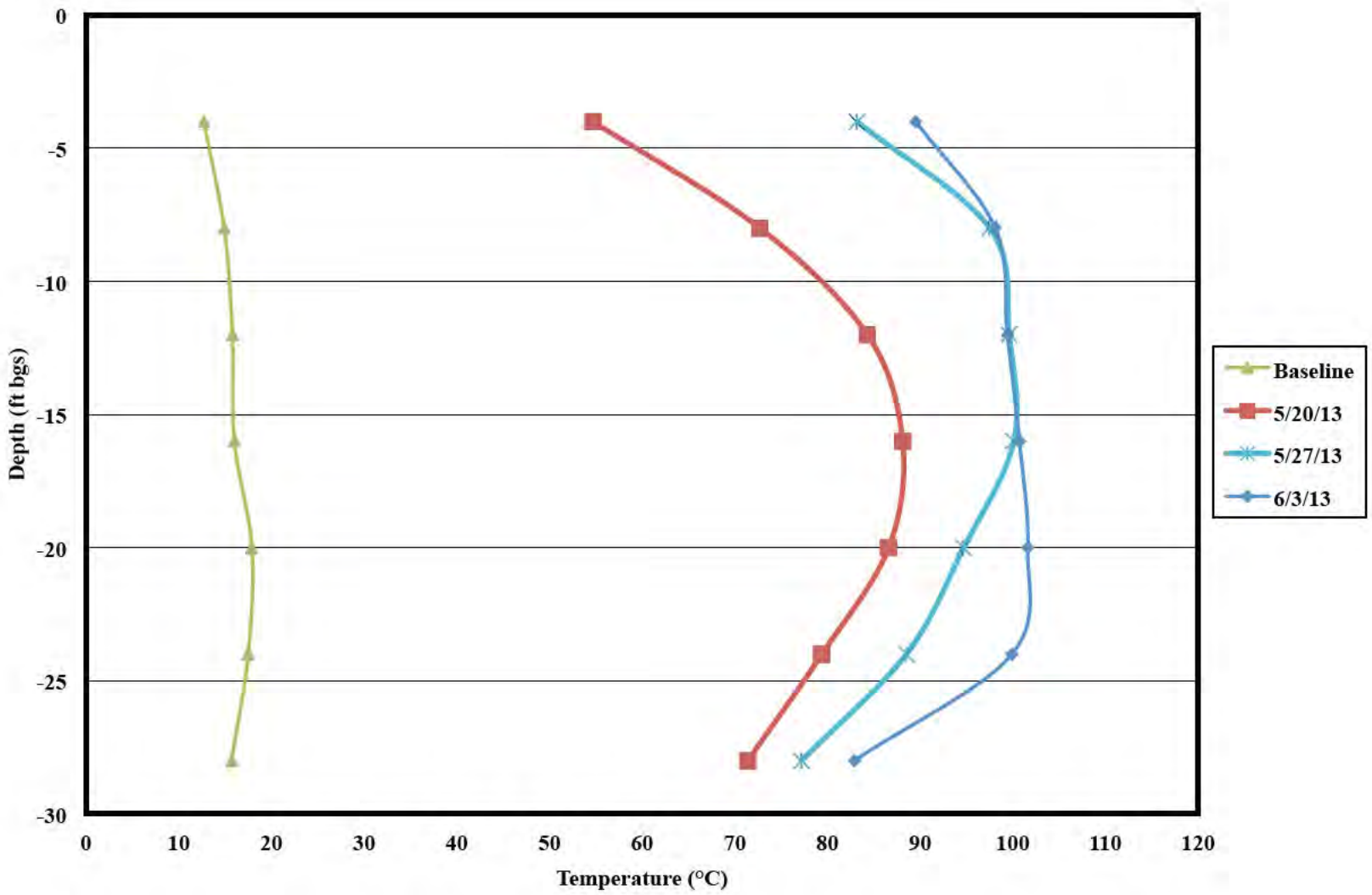


Figure 21. TMP K10 Temperature vs. Depth

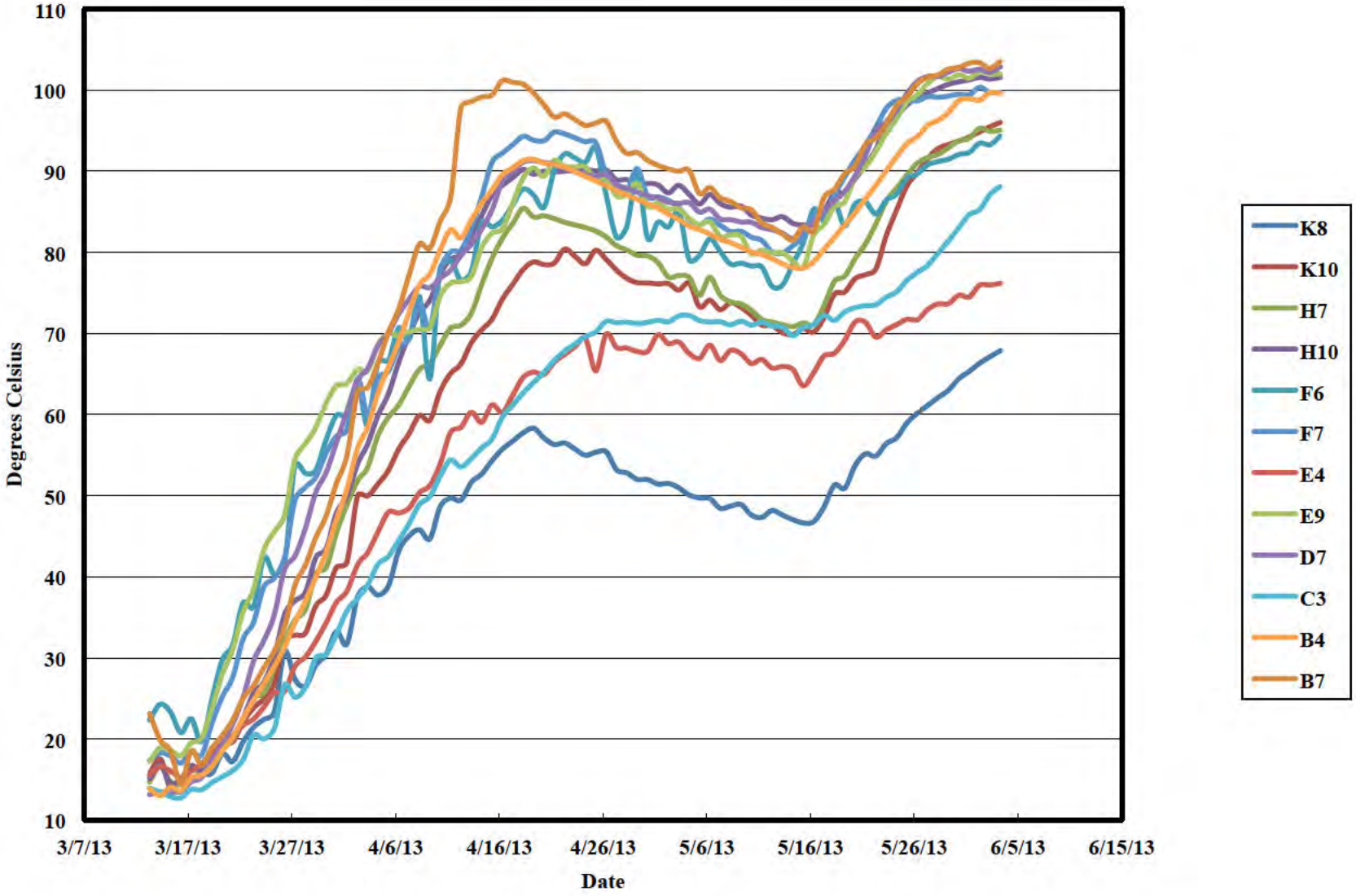


Figure 3. Average Subsurface Temperatures

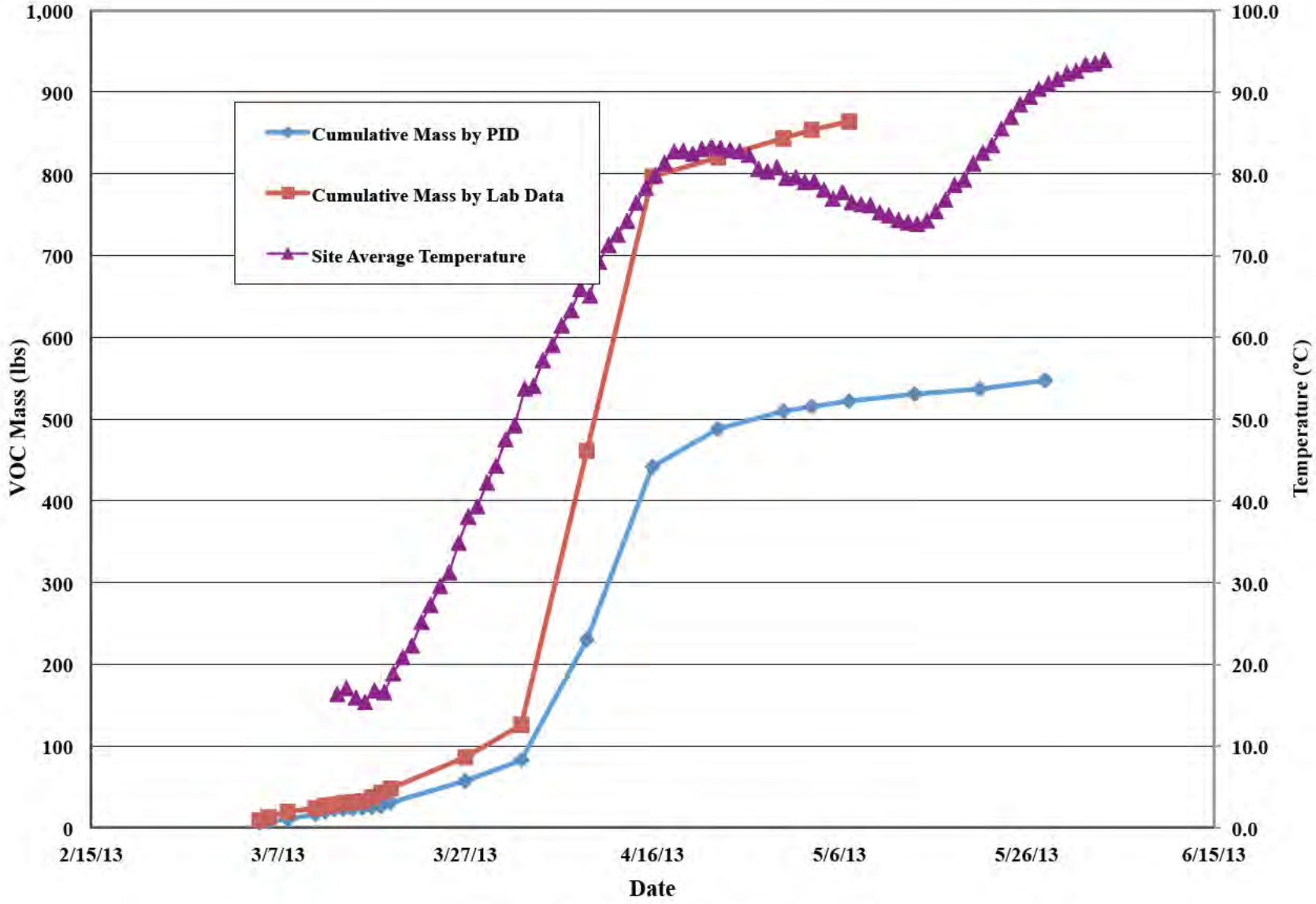


Figure 4. Cumulative Mass Removed

TRS Group, Inc.
PO Box 737
Longview, WA 98632
www.thermalrs.com

June 12, 2013

Ms. Mindy DeYoung
Riddell Williams P.S.
1001 Fourth Avenue, Suite 4500
Seattle, WA 98154-1192

Subject: Electrical Resistance Heating Weekly Status Report
June 3, 2013 to June 10, 2013
Heavens Supply Site
7009 Greenwood Avenue, Seattle, Washington 98103

Dear Ms. DeYoung,

This status report presents a summary of the Electrical Resistance Heating (ERH) related activities at 7009 Greenwood Avenue, Seattle, Washington (Site). The time period addressed in this report is from June 3, 2013 through June 10, 2013. A summary of field activities, ERH system status, and upcoming work are presented in the following sections.

ERH Application Summary

The key ERH system operational parameters for the reporting period are presented in **Table 1**, which includes data from the previous reporting period for comparison.

Table 1. ERH System Operating Parameters

ERH System Parameters	June 10, 2013	June 3, 2013
Weekly Average Power (kW)	757	825
Cumulative Energy Applied (kWh)	1,360,875	1,233,652
Average Subsurface Temperature (°C)	97.2	93.9
Average Vapor System Flow Rate (scfm)	692	686

TRS personnel were onsite throughout the reporting period. Tasks accomplished during the reporting period included:

- Daily collection of ERH system operation data and optimization of system performance.
- Completed routine equipment maintenance activities.
- Collected weekly vacuum readings from all available VR piping headers.
- Collected vacuum readings from each of the nine vacuum control points (VCPs) as well as from each side of the newly installed vent/block/vent utility abandonment.

The vapor recovery and vapor abatement systems operated within design parameters and in compliance with the Puget Sound Clean Air Agency (PSCAA) air permit conditions during the reporting period.

Treatment Region Temperatures

Treatment region temperatures are monitored at twelve temperature monitoring points (TMPs) containing thermocouples arrayed vertically. The average subsurface temperature for the site prior to the initial start of power application was 16.4 degrees Celsius (°C). The average subsurface temperature at the end of this reporting period was 97.2ºC, an increase of 80.8ºC since the start of operations and an increase of 3.3ºC within this reporting period. The highest observed subsurface temperature for this reporting period was 108.8ºC, at a depth of 12 feet below grade surface (ft bgs) at TMP B7 on June 9, 2013.

For the purpose of adequately illustrating the temperature change, the data was segregated into twelve separate graphs based on the TMP location. Temperatures relative to depth for each TMP are presented in **Figures 2a** through **2l.** Average subsurface temperature over time is presented in **Figure 3**.

Power and Energy

The PCU averaged 757 kilowatts (kW) of applied power to the treatment volume during the reporting period. A total of 1,360,875 kilowatt-hours (kWh) of energy have been applied to the subsurface as of June 10, 2013. This is approximately 45% of the design energy input.

ERH Vapor Recovery and Mass Removal

The vapor stream flow rate as measured after the vapor recovery blower averaged 692 standard cubic feet per minute (scfm) throughout the operating period.

Vapor samples are collected with the other operational data and analyzed onsite using a photo ionization detector (PID) as well as by laboratory analysis. This data and information is used to measure system performance (i.e. pounds of contaminant removed), air permit compliance, and are also factored into future system operations and adjustments. **Table 2** presents the cumulative recovery rate and estimated removed volatile organic compound (VOC) mass based on influent analytical data collected through June 4, 2013. **Figure 4** presents a graph of the cumulative VOC mass removed over time for both analytical data as well as PID field screening. As of June 4, 2013 the estimated total mass recovered is 908 pounds of VOCs.

Planned Activities

TRS personnel will visit the site the week of June 10, 2013 to continue full time operations of the ERH system.

Based on ERH operational parameters and recent influent concentrations to the VGAC, TRS has requested that Landau and Associates complete the first round of soil sampling as soon as possible. This data will allow TRS to focus energy on areas that may still require additional remediation and should result in a net energy savings to the project. The first sampling event is currently scheduled to begin on June 27, 2013.

Should you have any questions concerning this report, or if you would like any additional information, please contact either me or Lynette Stauch by phone at (720) 940-4885 and (505) 281-9553, respectively.

Sincerely,

TRS Group, Inc.

Jeff Brink

Project Manager

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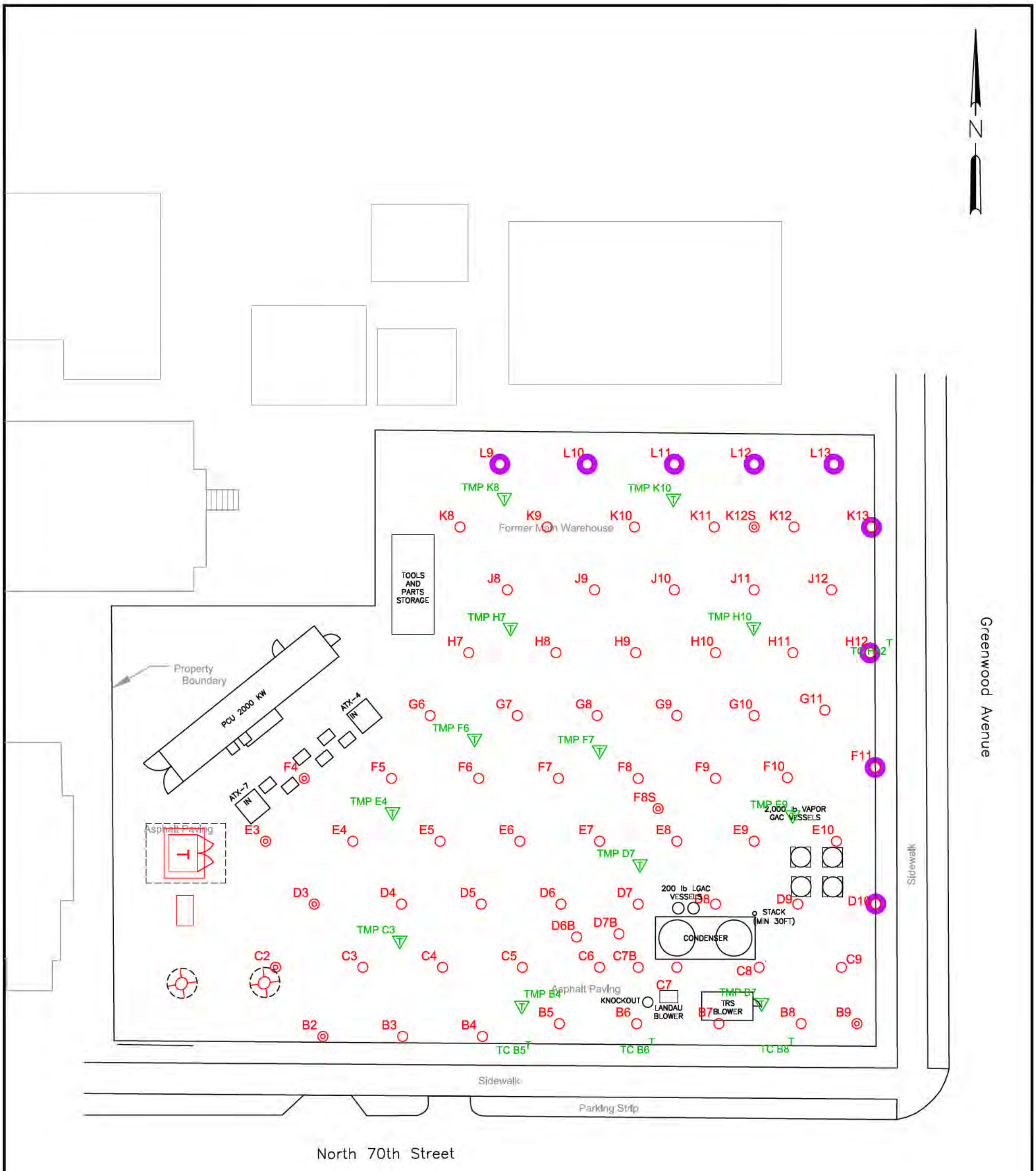
cc: Lynette Stauch, TRS
Piper Roelen, Landau
Tim Warner, TRS

ATTACHMENTS



LEGEND

- DEEP ELECTRODE (56)
- DUAL DEEP ELECTRODE (9)
- SHALLOW ELECTRODE (8)
- TEMPERATURE MONITORING POINT (12)
- T THERMOCOUPLE (4)

0' 20' 40'

TRS Accelerating Value

DESIGNED BY C. CROWNOVER	FOR HEAVEN SUPPLY, SEATTLE, WASHINGTON
DRAWN BY C. CROWNOVER	
CHECKED BY TRS	ERH SYSTEM DESIGN
PROJECT MANAGER J. BRINK	
APPROVED FOR IMPLEMENTATION BY _____ FOR _____ DATE	DATE 12/06/11 · PROJECT SEA19 · SHEET FIGURE 1

Table 2. ERH System VOC Mass Removal (based on analytical data)

Date	Mass Removed (lb)	Total Mass Removed (lb)
3-5-13	9	9
3-14-13	21	30
3-19-13	18	48
3-27-13	38	87
4-2-13	39	126
4-9-13	335	461
5-3-13	393	854
5-7-13	10	864
6-4-13	44	908

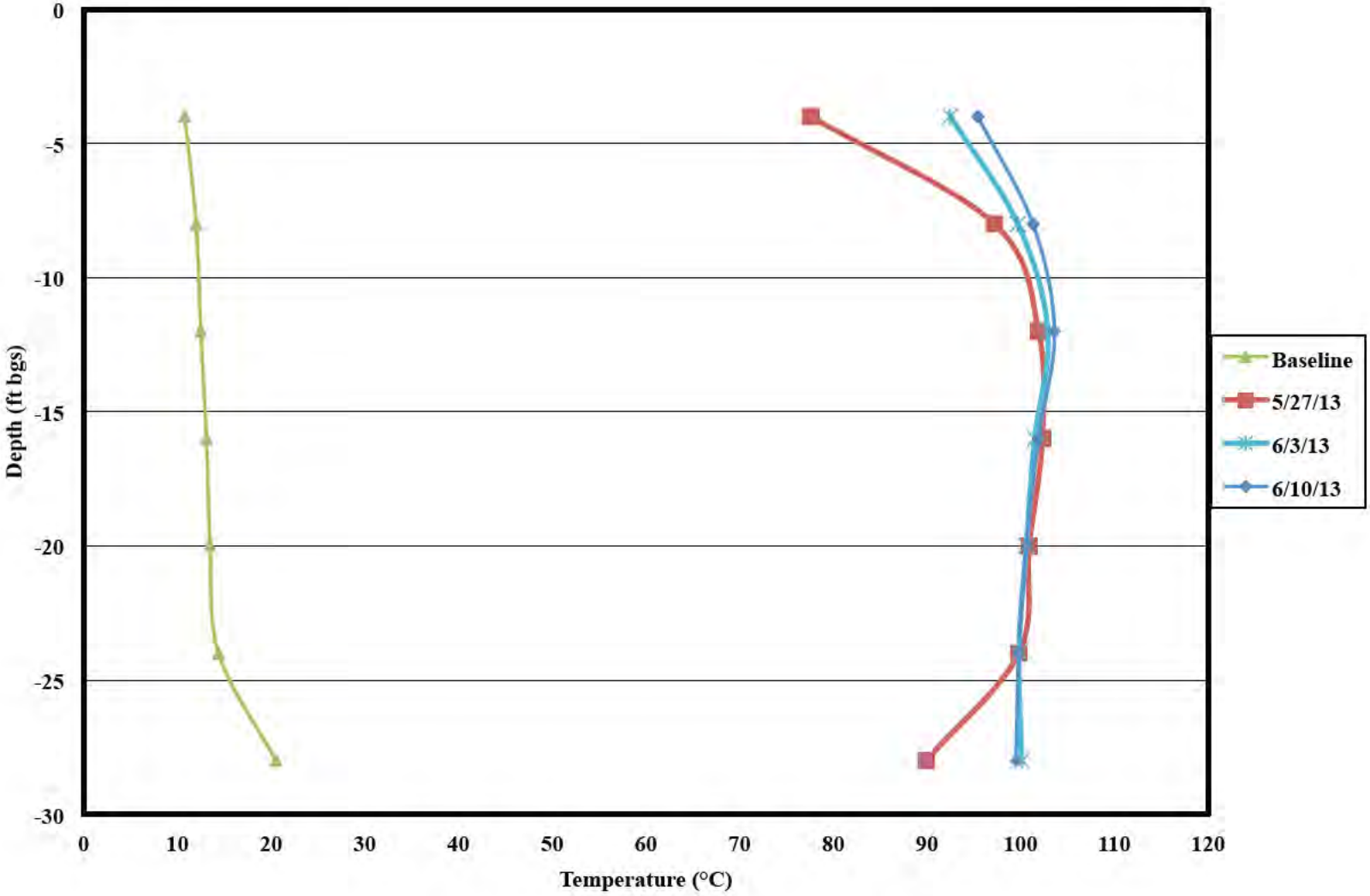


Figure 2a. TMP B4 Temperature vs. Depth

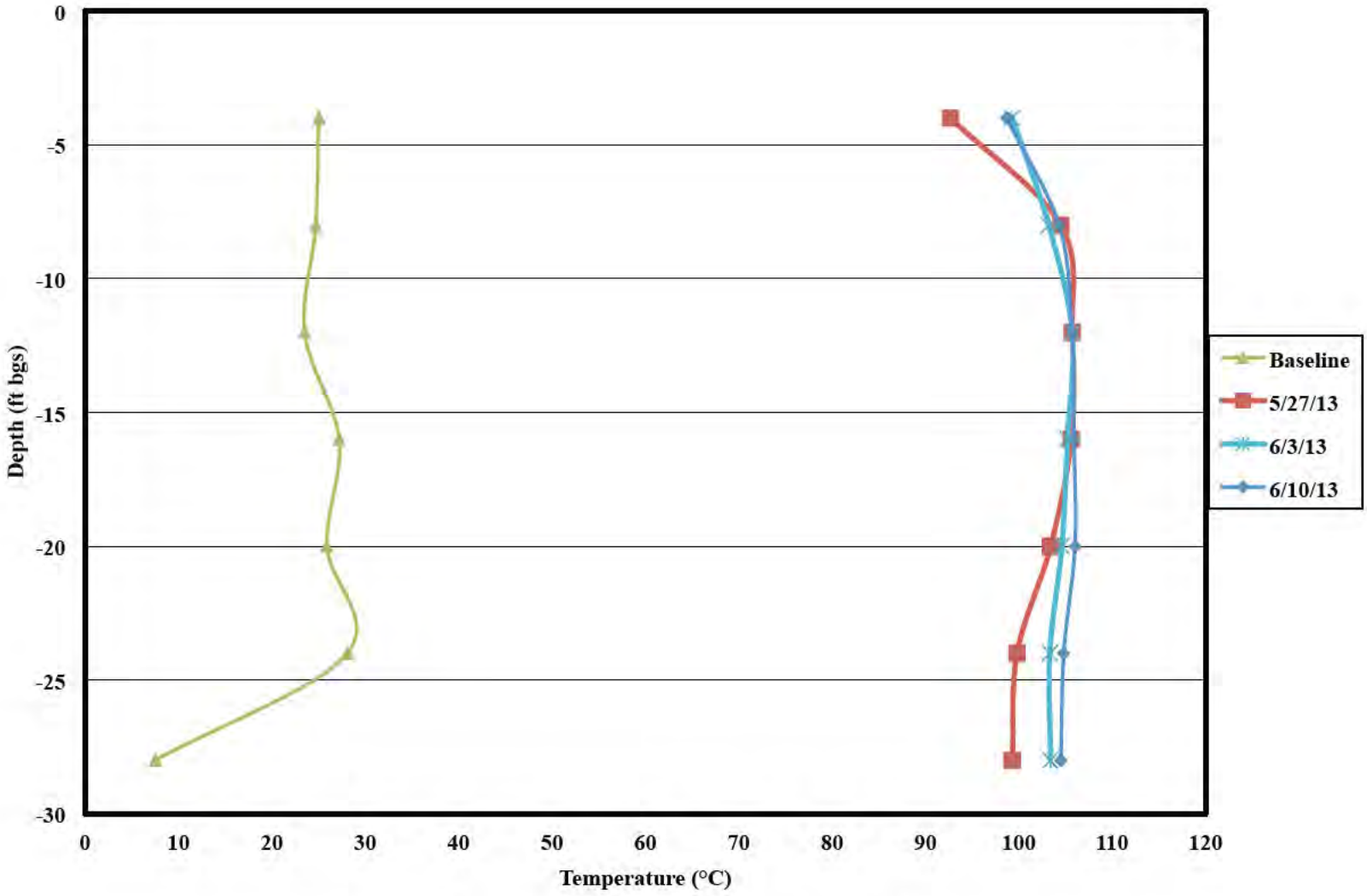


Figure 2b. TMP B7 Temperature vs. Depth

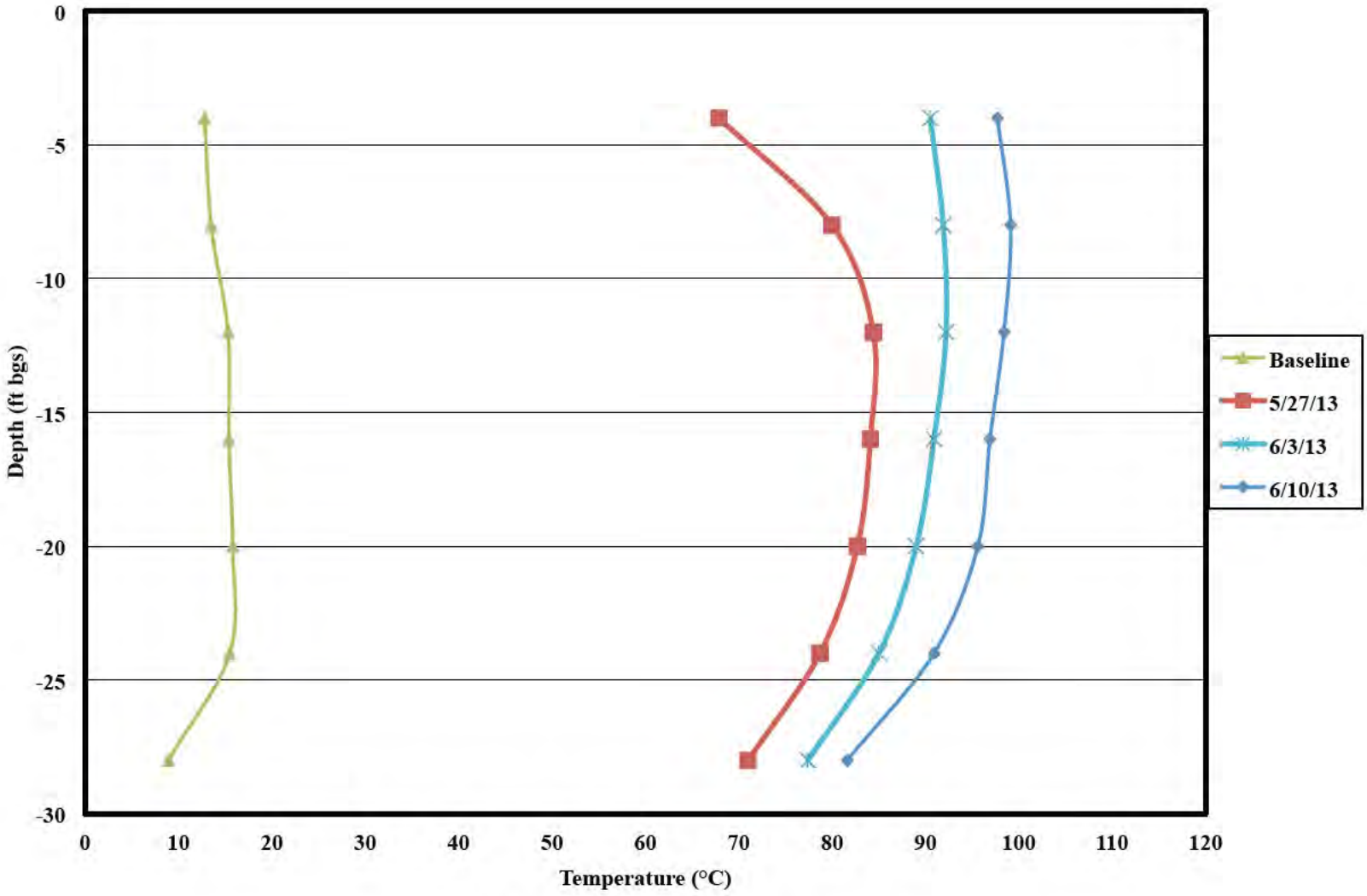


Figure 2c. TMP C3 Temperature vs. Depth

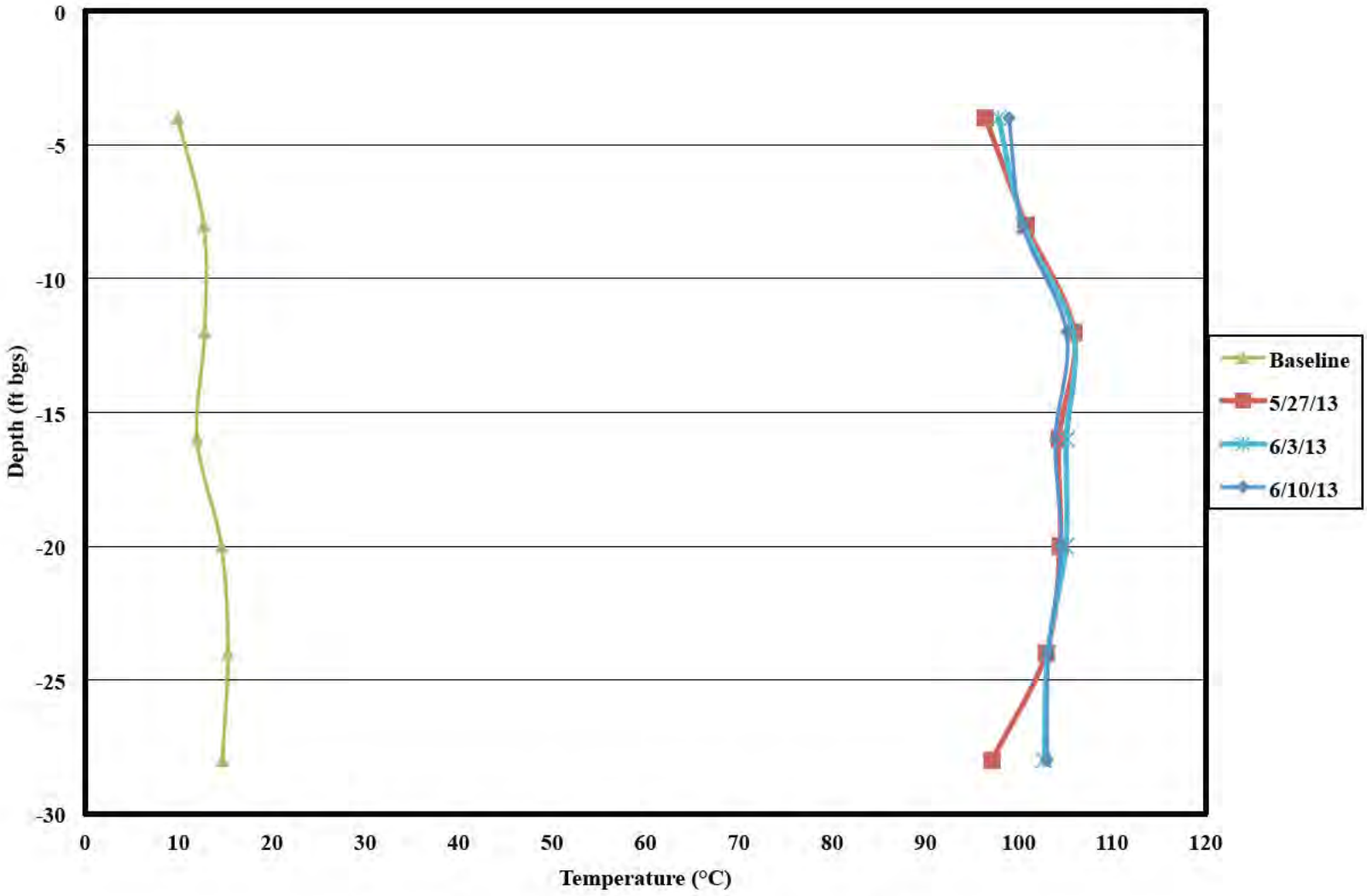


Figure 2d. TMP D7 Temperature vs. Depth

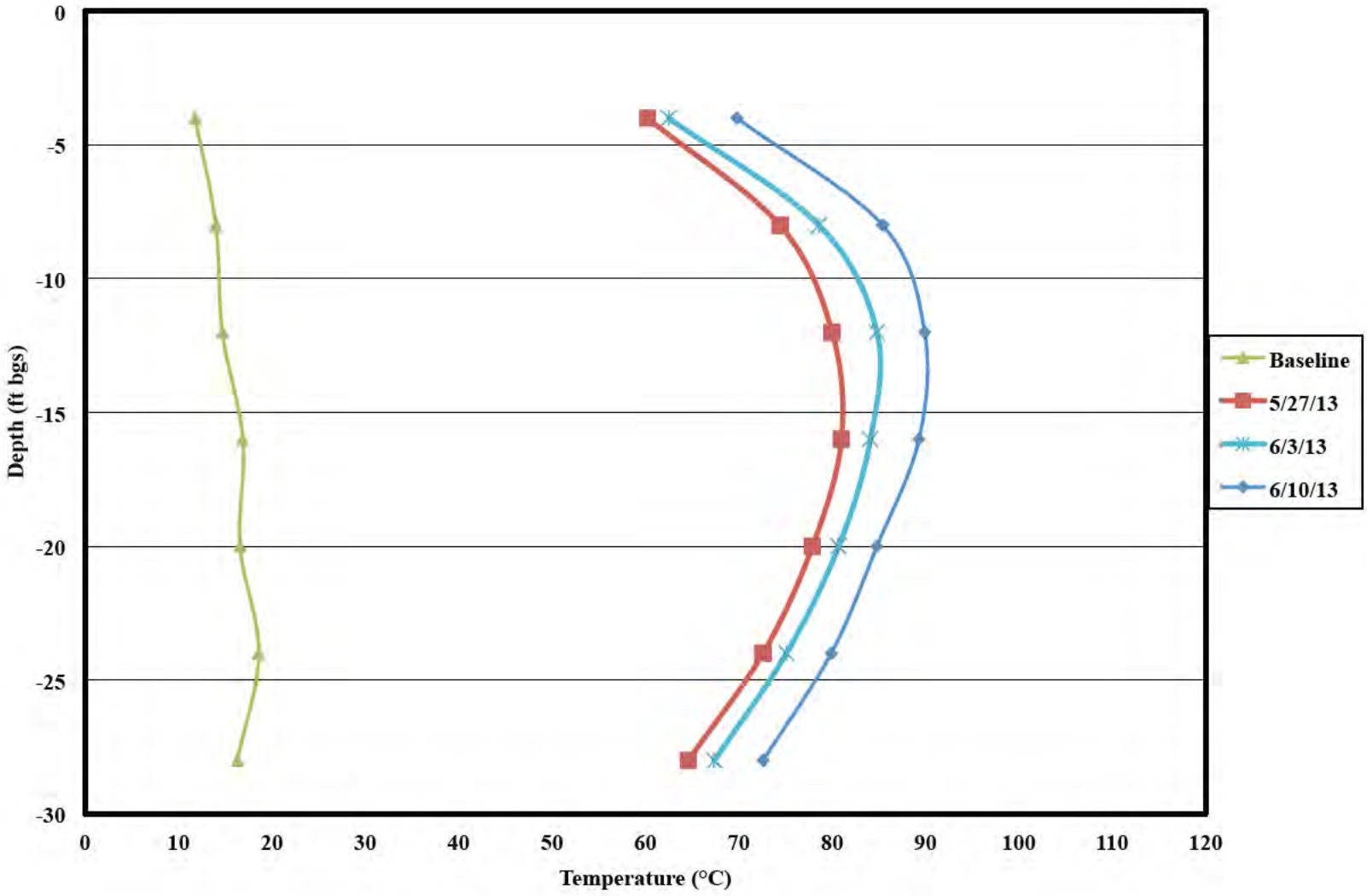


Figure 2e. TMP E4 Temperature vs. Depth

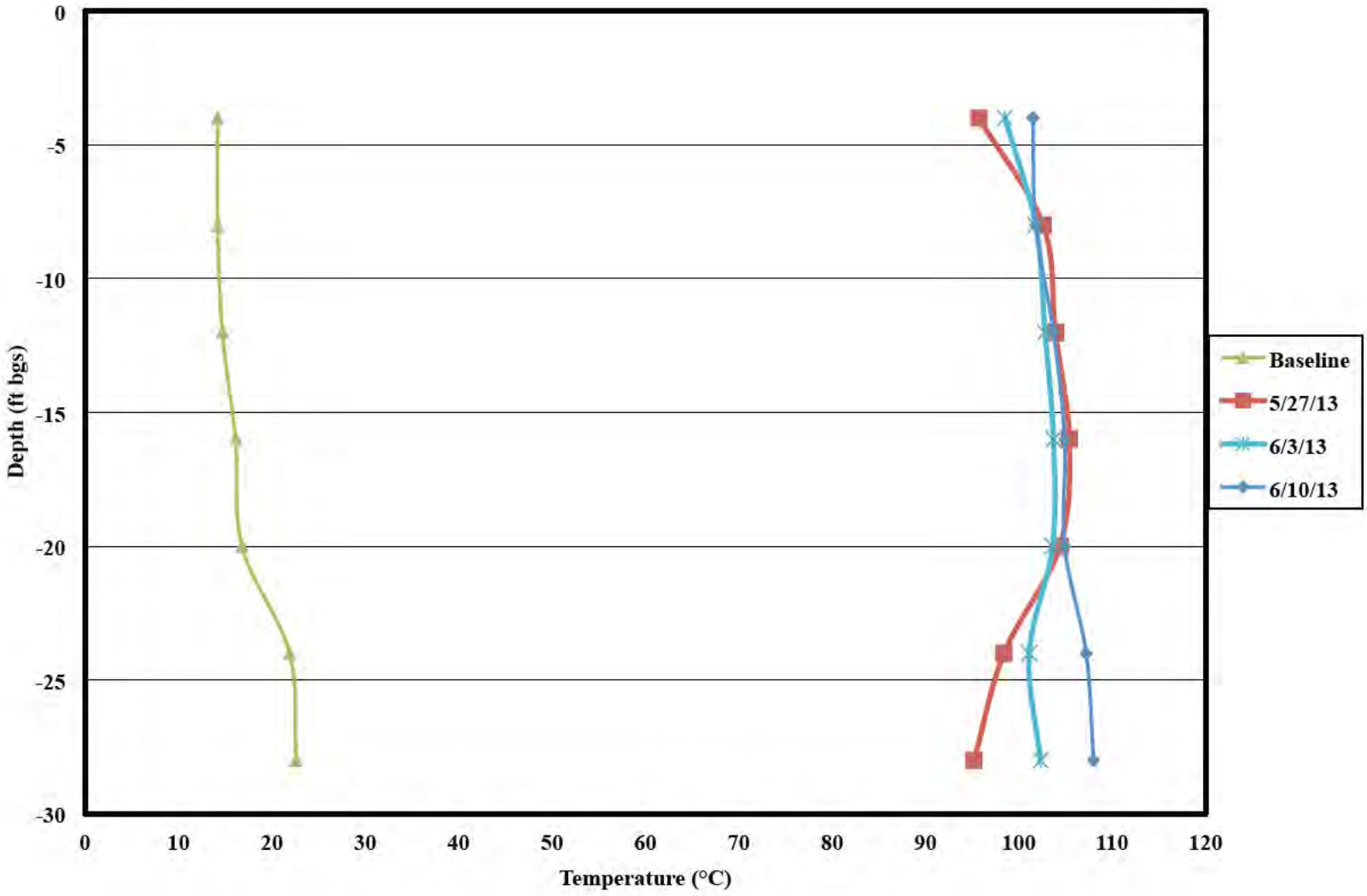


Figure 2f. TMP E9 Temperature vs. Depth

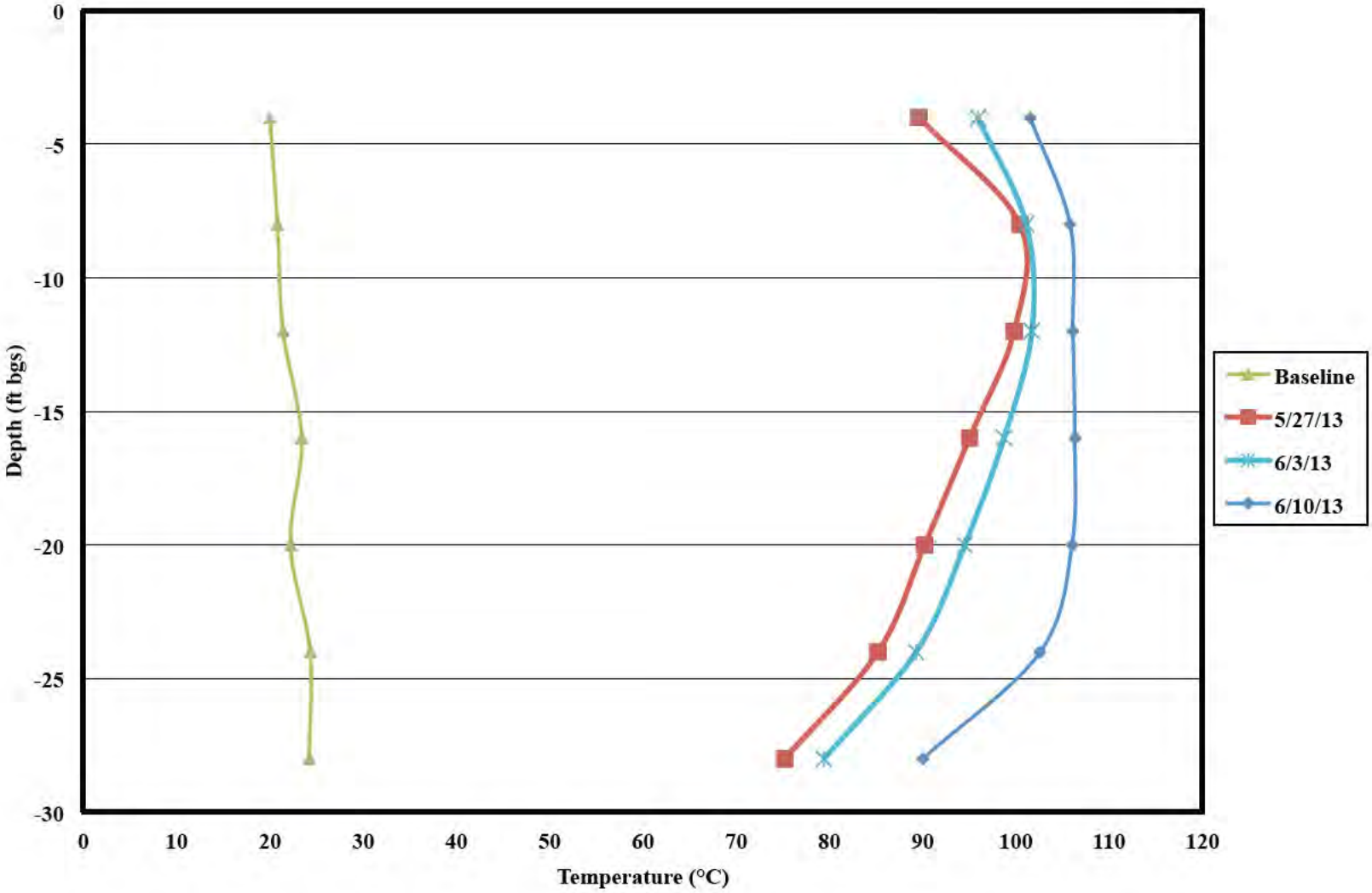


Figure 2g. TMP F6 Temperature vs. Depth

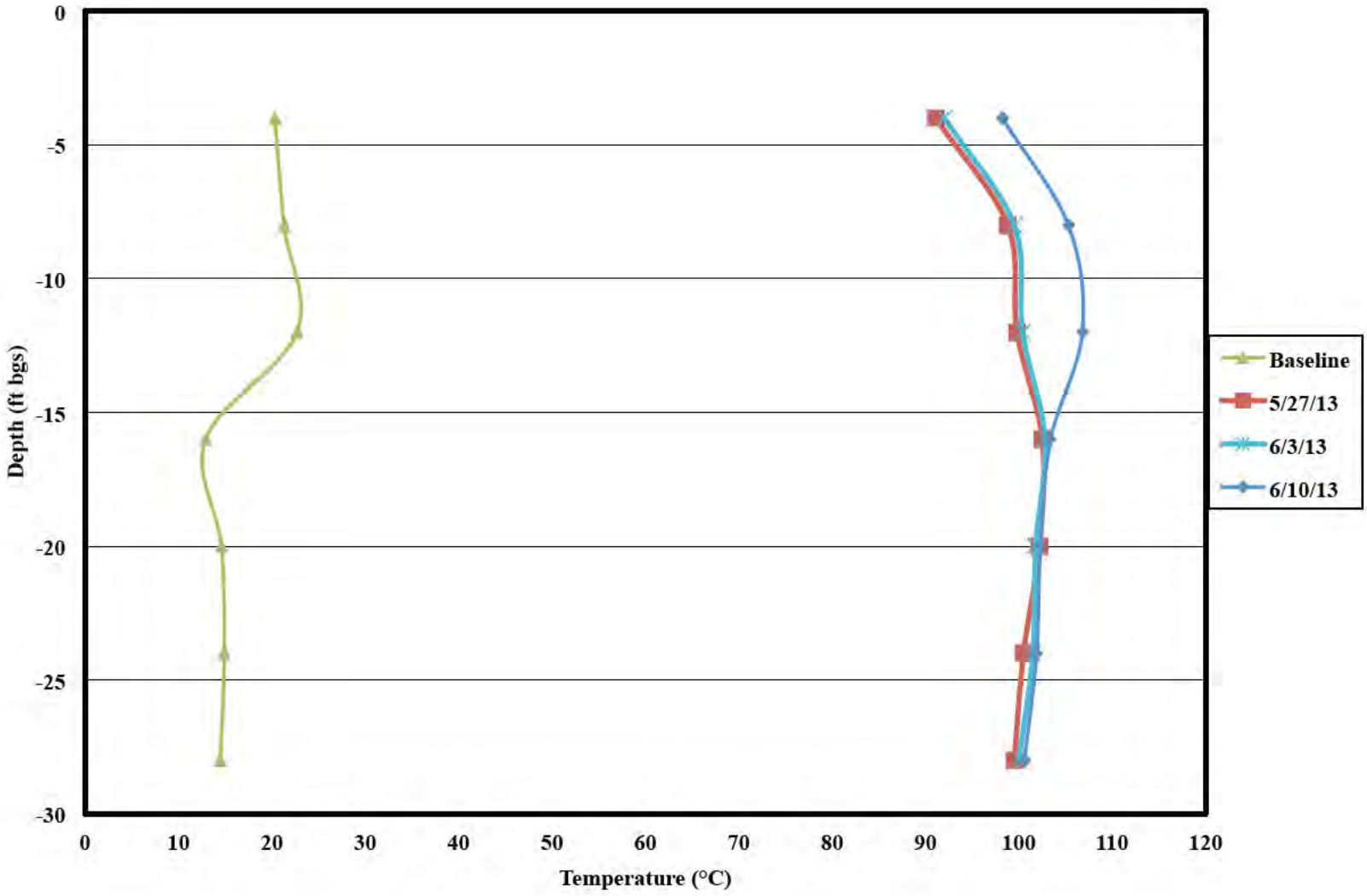


Figure 2h. TMP F7 Temperature vs. Depth

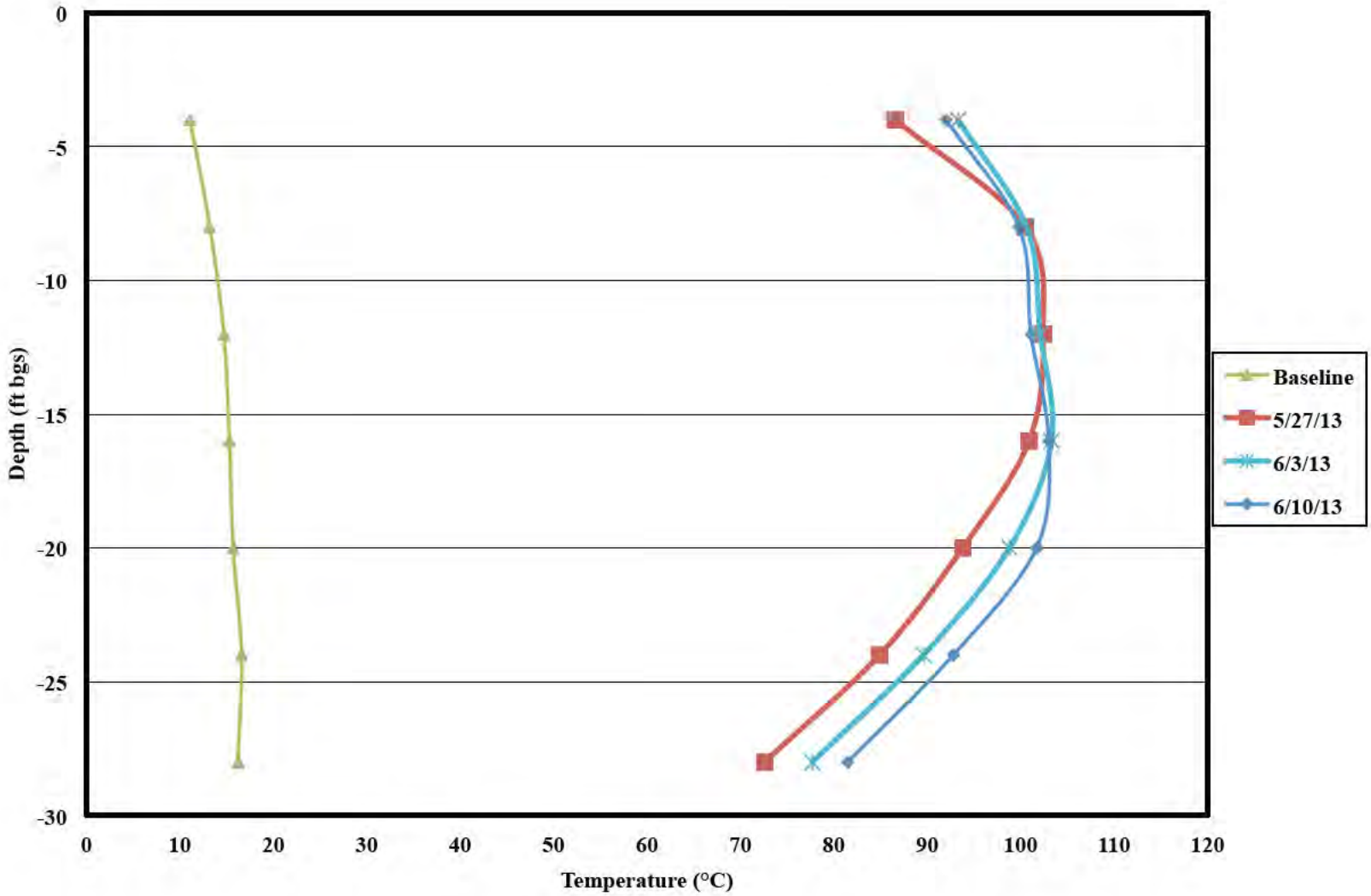


Figure 2i. TMP H7 Temperature vs. Depth

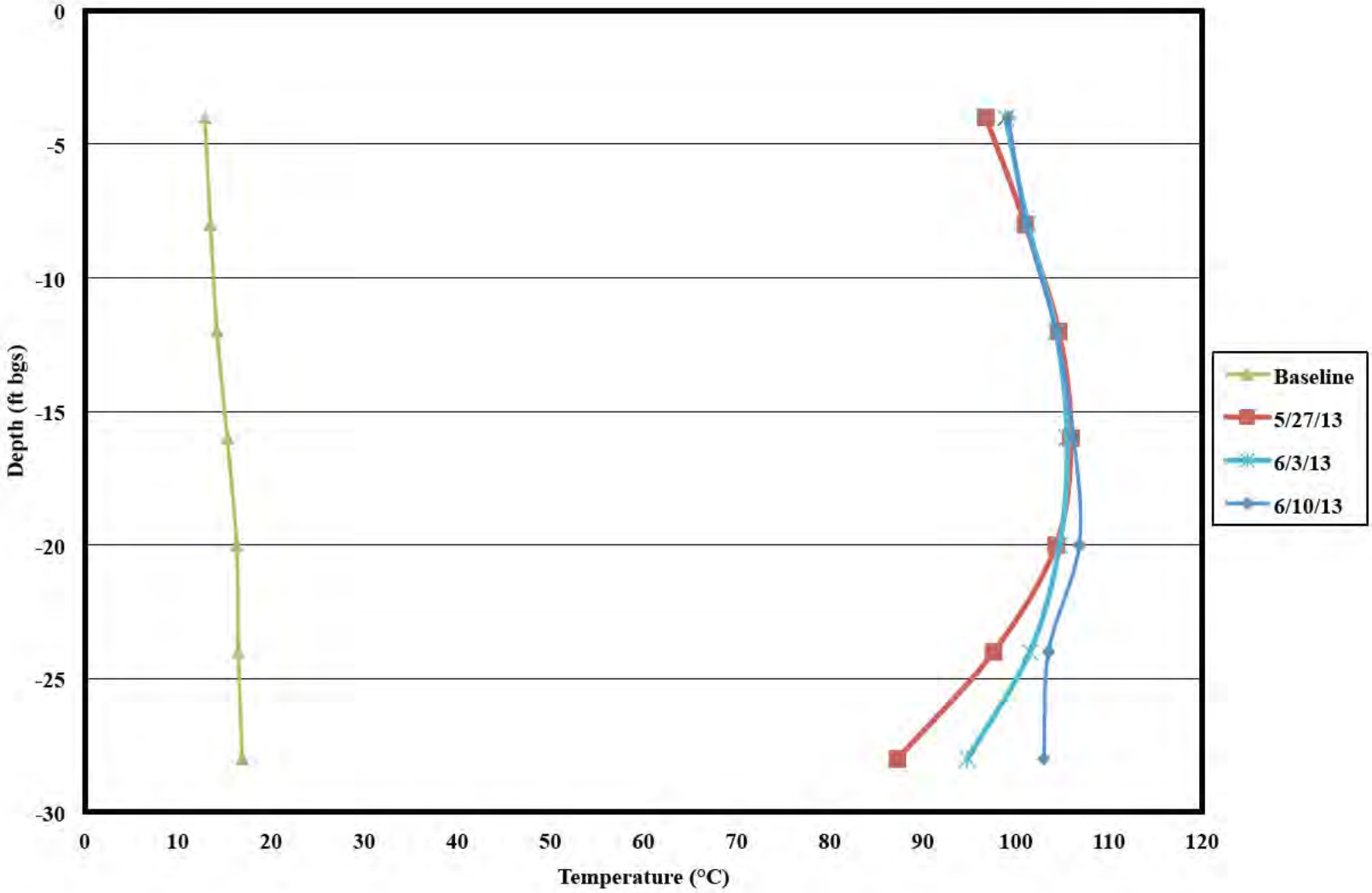


Figure 2j. TMP H10 Temperature vs. Depth

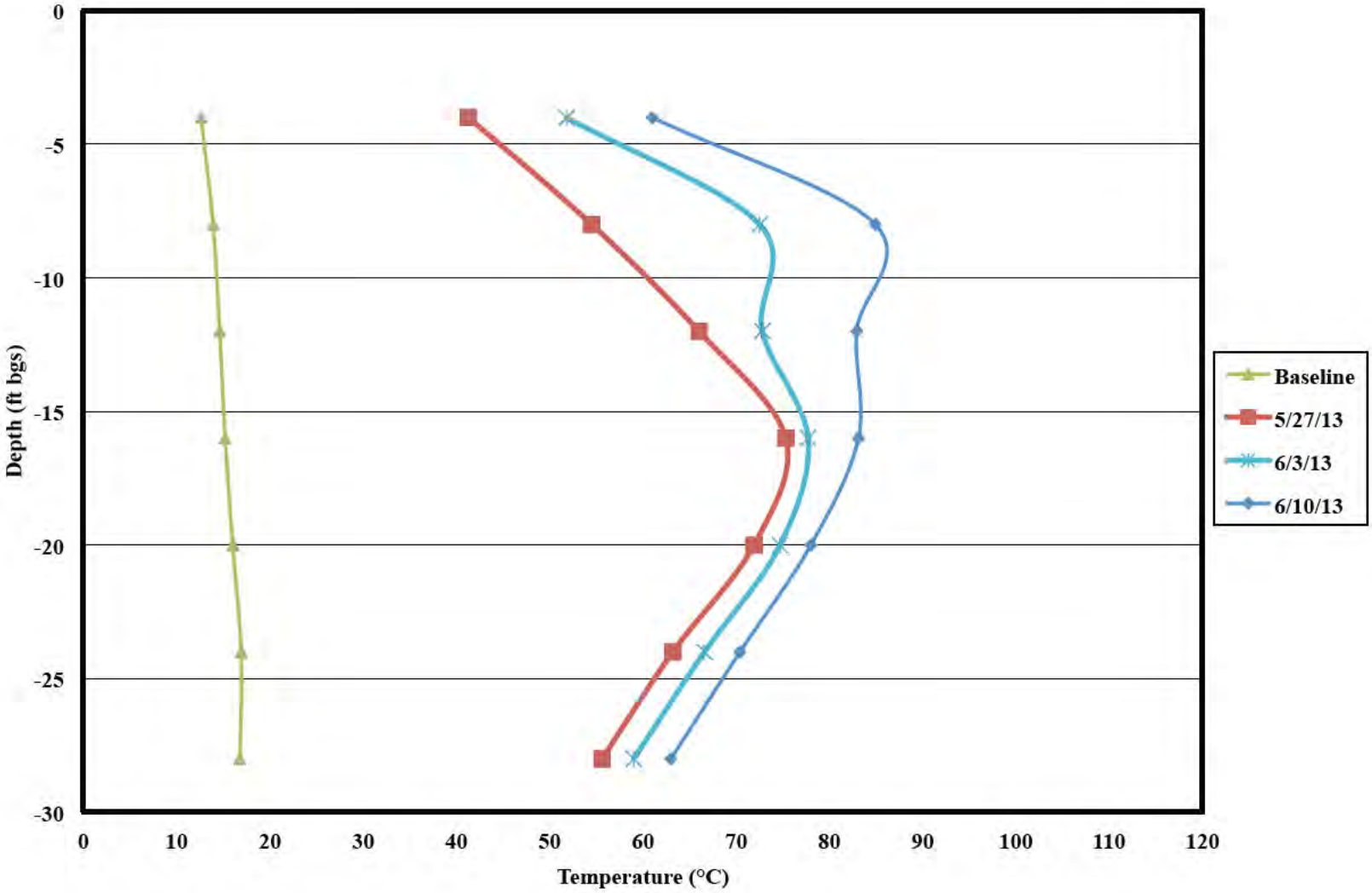


Figure 2k. TMP K8 Temperature vs. Depth

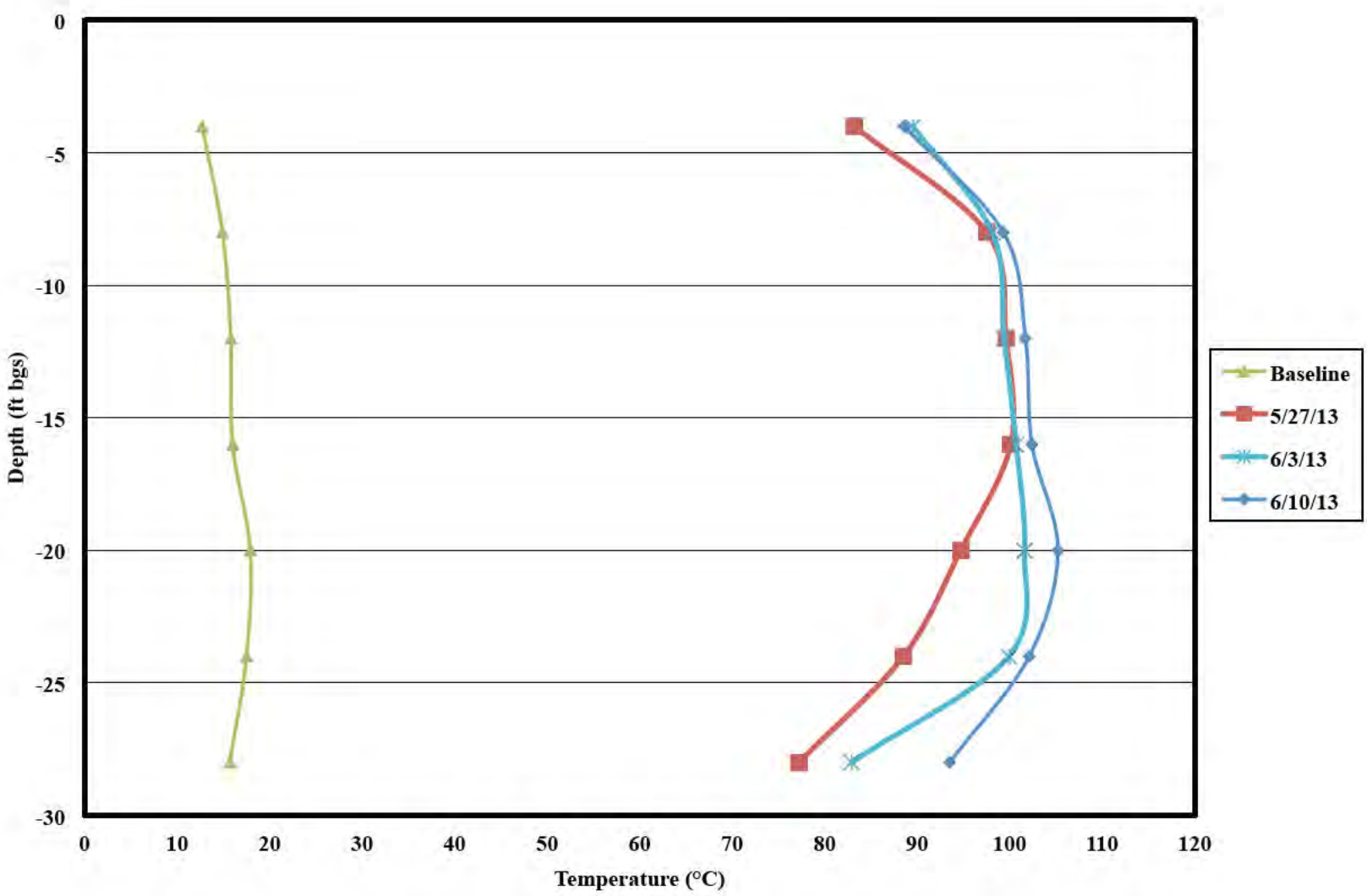


Figure 21. TMP K10 Temperature vs. Depth

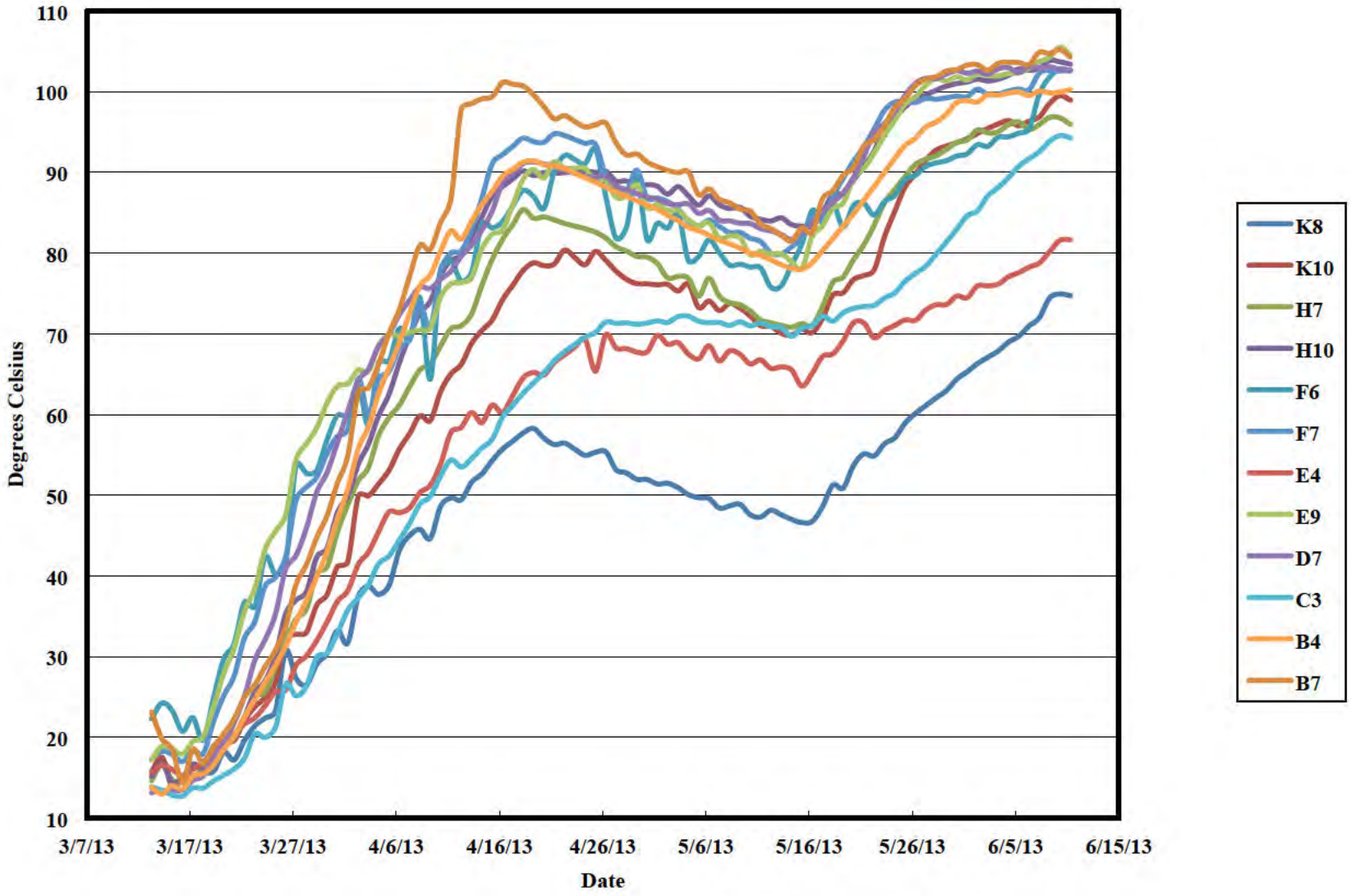


Figure 3. Average Subsurface Temperatures

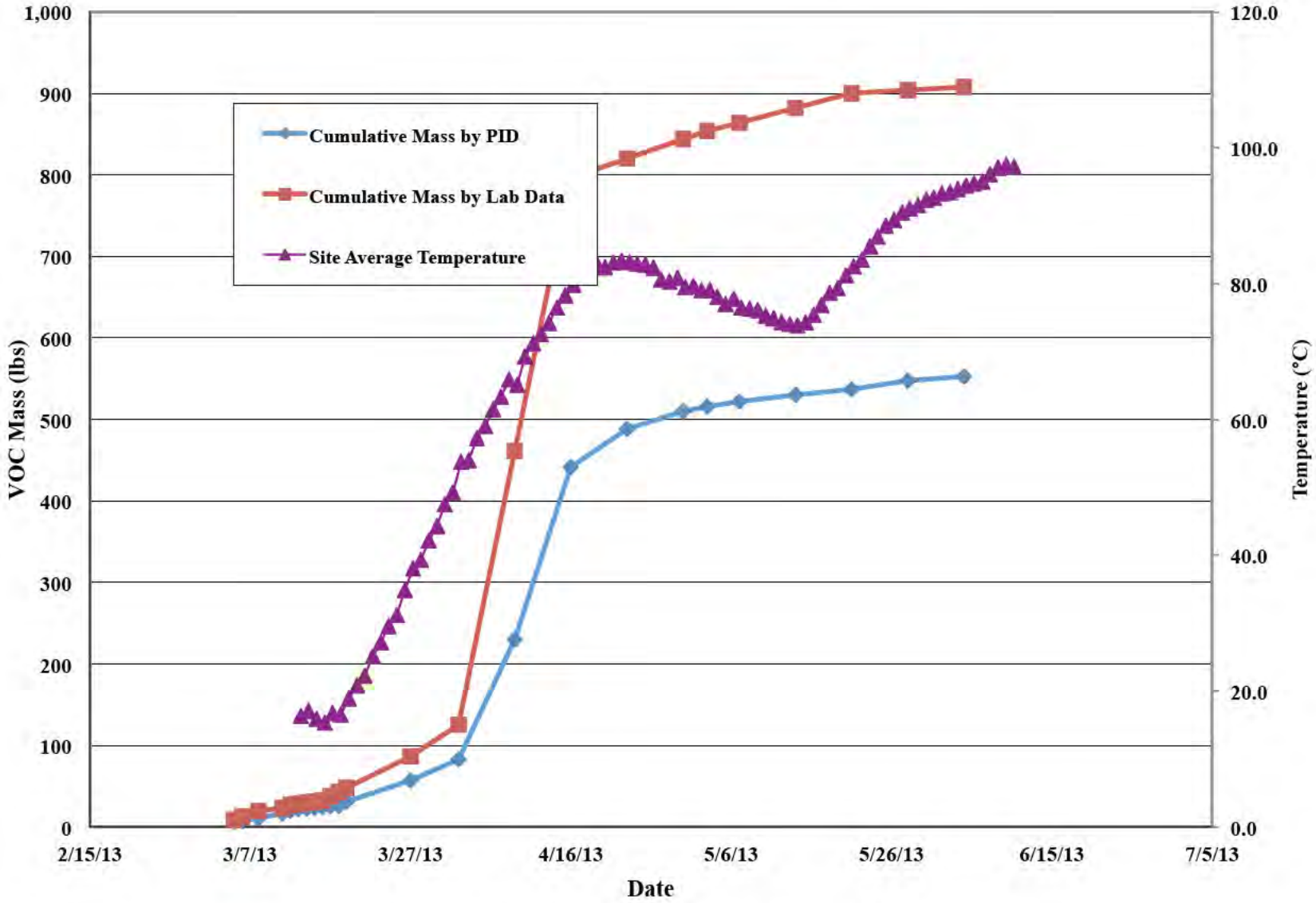


Figure 4. Cumulative Mass Removed

TRS Group, Inc.
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June 19, 2013

Ms. Mindy DeYoung
Riddell Williams P.S.
1001 Fourth Avenue, Suite 4500
Seattle, WA 98154-1192

Subject: Electrical Resistance Heating Weekly Status Report
June 10, 2013 to June 17, 2013
Heavens Supply Site
7009 Greenwood Avenue, Seattle, Washington 98103

Dear Ms. DeYoung,

This status report presents a summary of the Electrical Resistance Heating (ERH) related activities at 7009 Greenwood Avenue, Seattle, Washington (Site). The time period addressed in this report is from June 10, 2013 through June 17, 2013. A summary of field activities, ERH system status, and upcoming work are presented in the following sections.

ERH Application Summary

The key ERH system operational parameters for the reporting period are presented in **Table 1**, which includes data from the previous reporting period for comparison.

Table 1. ERH System Operating Parameters

ERH System Parameters	June 17, 2013	June 10, 2013
Weekly Average Power (kW)	832	757
Cumulative Energy Applied (kWh)	1,500,609	1,360,875
Average Subsurface Temperature (°C)	97.3	97.2
Average Vapor System Flow Rate (scfm)	702	686

TRS personnel were onsite throughout the reporting period. Tasks accomplished during the reporting period included:

- Daily collection of ERH system operation data and optimization of system performance.
- Completed routine equipment maintenance activities.
- Collected weekly vacuum readings from all available VR piping headers.
- Collected vacuum readings from each of the nine vacuum control points (VCPs) as well as from each side of the vent/block/vent utility abandonment.

The vapor recovery and vapor abatement systems operated within design parameters and in compliance with the Puget Sound Clean Air Agency (PSCAA) air permit conditions during the reporting period.

Treatment Region Temperatures

Treatment region temperatures are monitored at twelve temperature monitoring points (TMPs) containing thermocouples arrayed vertically. The average subsurface temperature for the site prior to the initial start of power application was 16.4 degrees Celsius (°C). The average subsurface temperature at the end of this reporting period was 97.3ºC, an increase of 80.9ºC since the start of operations and an increase of 0.1ºC within this reporting period. The highest observed subsurface temperature for this reporting period was 108.1ºC, at a depth of 15 feet below grade surface (ft bgs) at TMP F7 on June 15, 2013. For the purpose of adequately illustrating the temperature change, the data was segregated into twelve separate graphs based on the TMP location. Temperatures relative to depth for each TMP are presented in **Figures 2a** through **2l.** Average subsurface temperature over time is presented in **Figure 3**.

Power and Energy

The PCU averaged 832 kilowatts (kW) of applied power to the treatment volume during the reporting period. A total of 1,500,609 kilowatt-hours (kWh) of energy have been applied to the subsurface as of June 17, 2013. This is approximately 51% of the design energy input.

ERH Vapor Recovery and Mass Removal

The vapor stream flow rate as measured after the vapor recovery blower averaged 702 standard cubic feet per minute (scfm) throughout the operating period.

Vapor samples are collected with the other operational data and analyzed onsite using a photo ionization detector (PID) as well as by laboratory analysis. This data and information is used to measure system performance (i.e. pounds of contaminant removed), air permit compliance, and are also factored into future system operations and adjustments. **Table 2** presents the cumulative recovery rate and estimated removed volatile organic compound (VOC) mass based on influent analytical data collected through June 4, 2013. **Figure 4** presents a graph of the cumulative VOC mass removed over time for both analytical data as well as PID field screening. As of June 4, 2013 the estimated total mass recovered is 908 pounds of VOCs.

Planned Activities

TRS personnel will visit the site the week of June 17, 2013 to continue full time operations of the ERH system.

Based on ERH operational parameters and recent influent concentrations to the Vapor Granular Activated Carbon (VGAC), TRS has requested that Landau and Associates complete the first round of soil sampling as soon as possible. This data will allow TRS to focus energy on areas that may still require additional remediation and should result in a net energy savings to the project. The first sampling event is currently scheduled to begin on June 27, 2013. A carbon change out for both the vapor and liquid phase GAC is scheduled to be completed on June 19, 2013.

Should you have any questions concerning this report, or if you would like any additional information, please contact either me or Lynette Stauch by phone at (720) 940-4885 and (505) 281-9553, respectively.

Sincerely,

TRS Group, Inc.

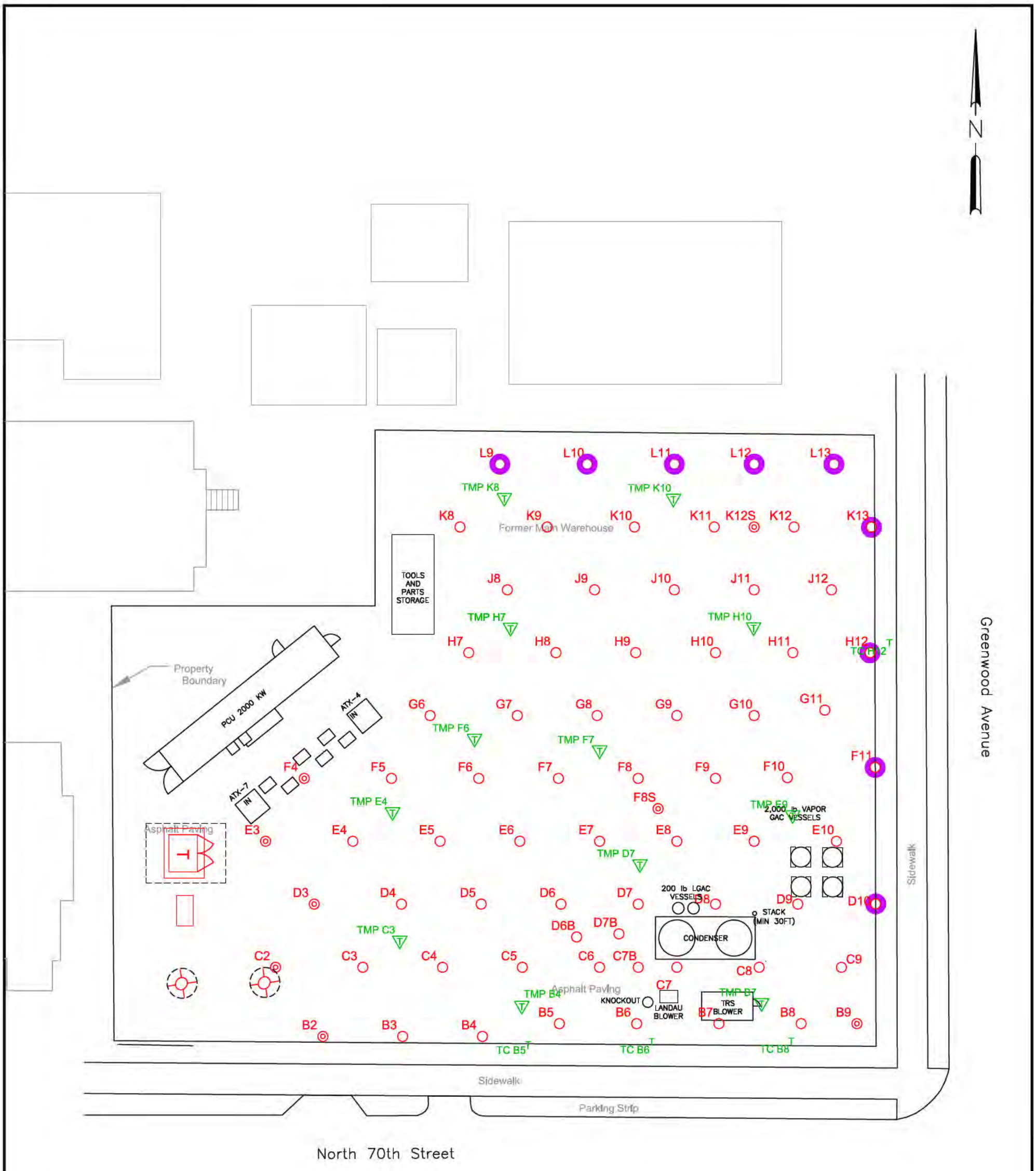
Jeff Brink

Project Manager

Attachments: Figure 1 – Site Plan
Table 2 – Mass Removed
Figure 2a – TMP B4 Temperature vs. Depth
Figure 2b – TMP B7 Temperature vs. Depth
Figure 2c – TMP C3 Temperature vs. Depth
Figure 2d – TMP D7 Temperature vs. Depth
Figure 2e – TMP E4 Temperature vs. Depth
Figure 2f – TMP E9 Temperature vs. Depth
Figure 2g – TMP F6 Temperature vs. Depth
Figure 2h – TMP F7 Temperature vs. Depth
Figure 2i – TMP H7 Temperature vs. Depth
Figure 2j – TMP H10 Temperature vs. Depth
Figure 2k – TMP K8 Temperature vs. Depth
Figure 2l – TMP K10 Temperature vs. Depth
Figure 3 – Average Subsurface Temperature vs. Time
Figure 4 – Cumulative Mass Removed

cc: Lynette Stauch, TRS
Piper Roelen, Landau
Tim Warner, TRS

ATTACHMENTS



LEGEND

- DEEP ELECTRODE (56)
- DUAL DEEP ELECTRODE (9)
- SHALLOW ELECTRODE (8)
- TEMPERATURE MONITORING POINT (12)
- T THERMOCOUPLE (4)

0' 20' 40'

TRS Accelerating Value

DESIGNED BY C. CROWNOVER	FOR HEAVEN SUPPLY, SEATTLE, WASHINGTON
DRAWN BY C. CROWNOVER	
CHECKED BY TRS	ERH SYSTEM DESIGN
PROJECT MANAGER J. BRINK	
APPROVED FOR IMPLEMENTATION BY _____ FOR _____ DATE	DATE 12/06/11 · PROJECT SEA19 · SHEET FIGURE 1

Table 2. ERH System VOC Mass Removal (based on analytical data)

Date	Mass Removed (lb)	Total Mass Removed (lb)
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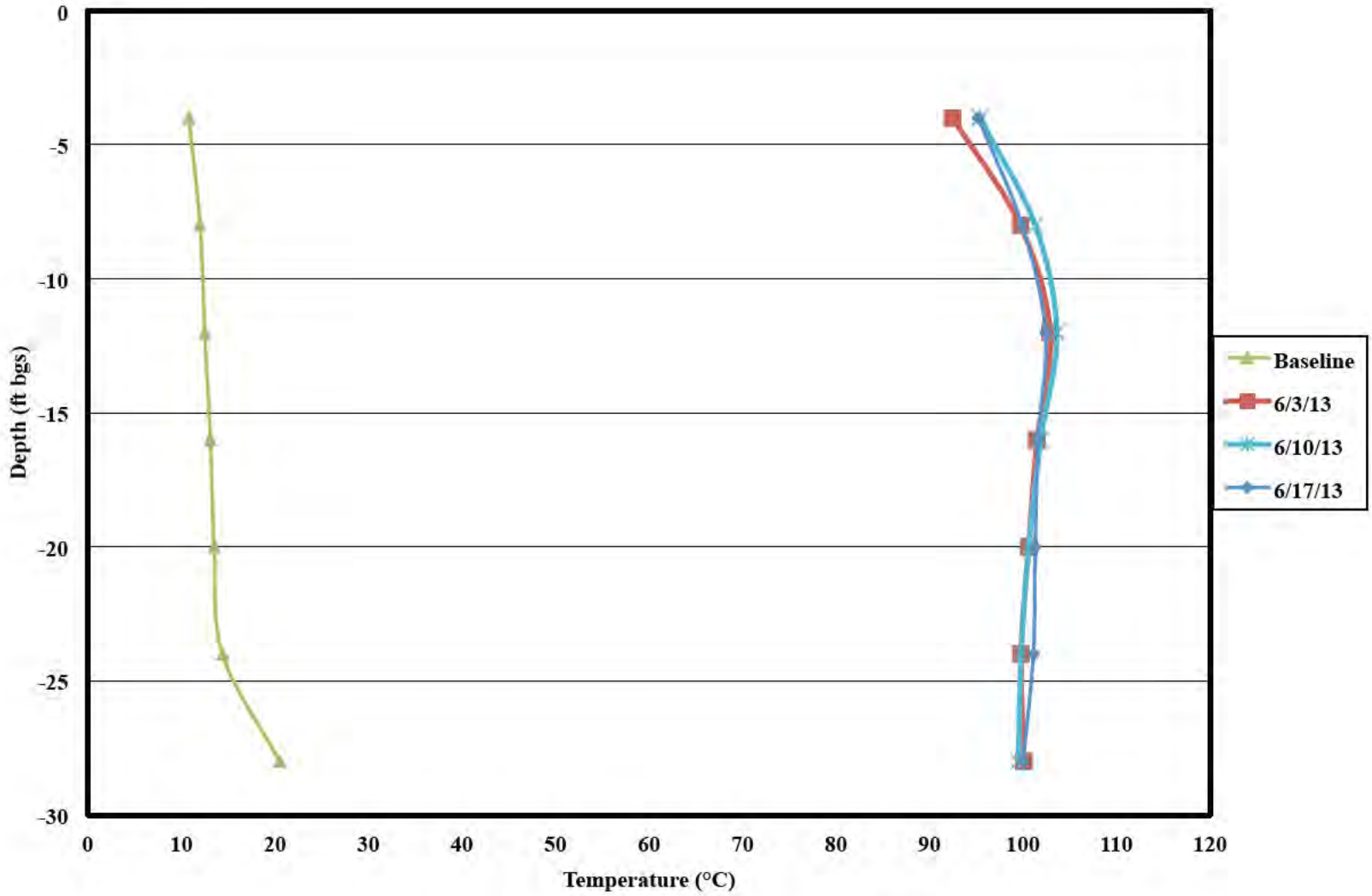

Figure 2a. TMP B4 Temperature vs. Depth

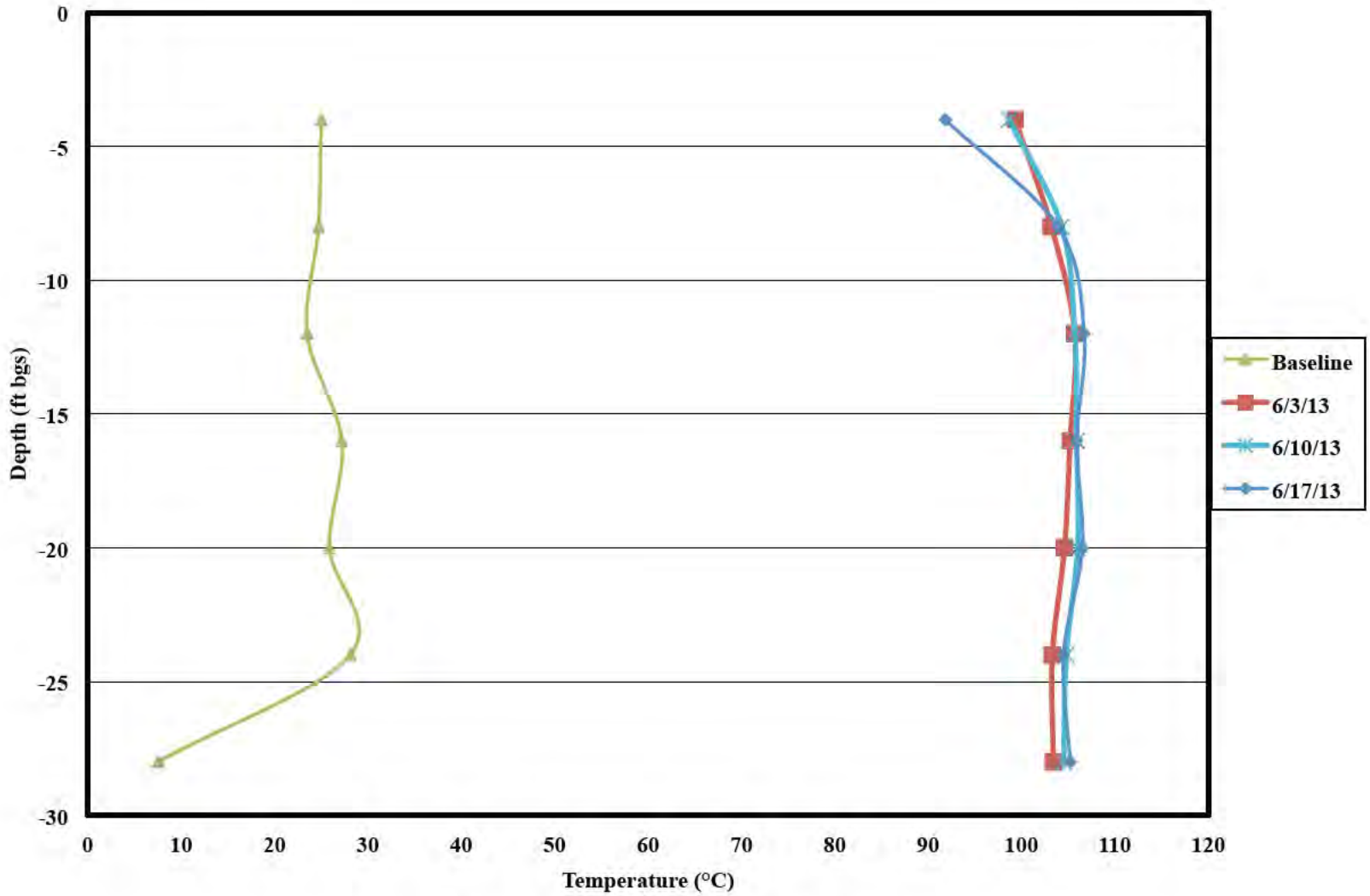

Figure 2b. TMP B7 Temperature vs. Depth

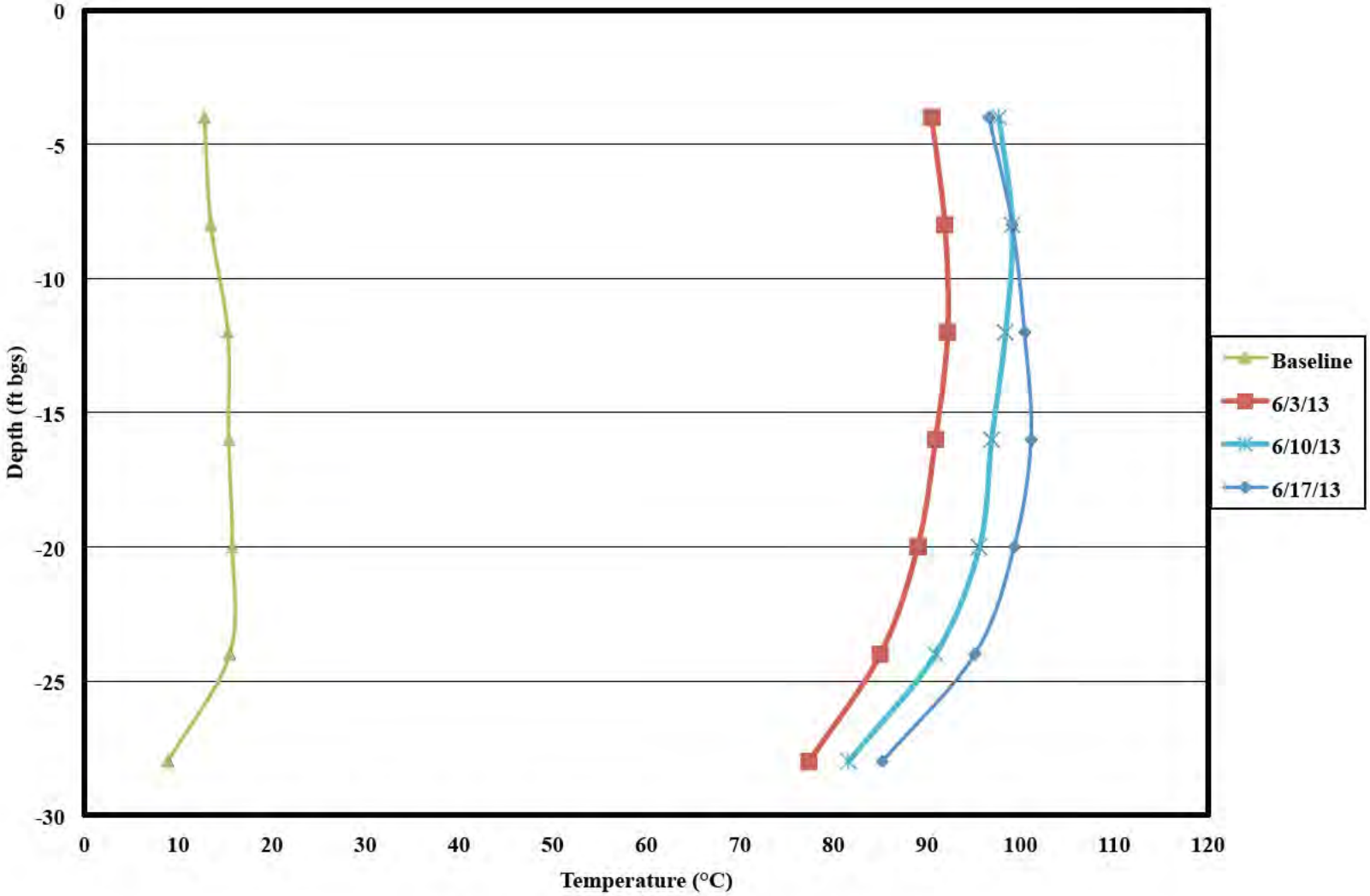

Figure 2c. TMP C3 Temperature vs. Depth

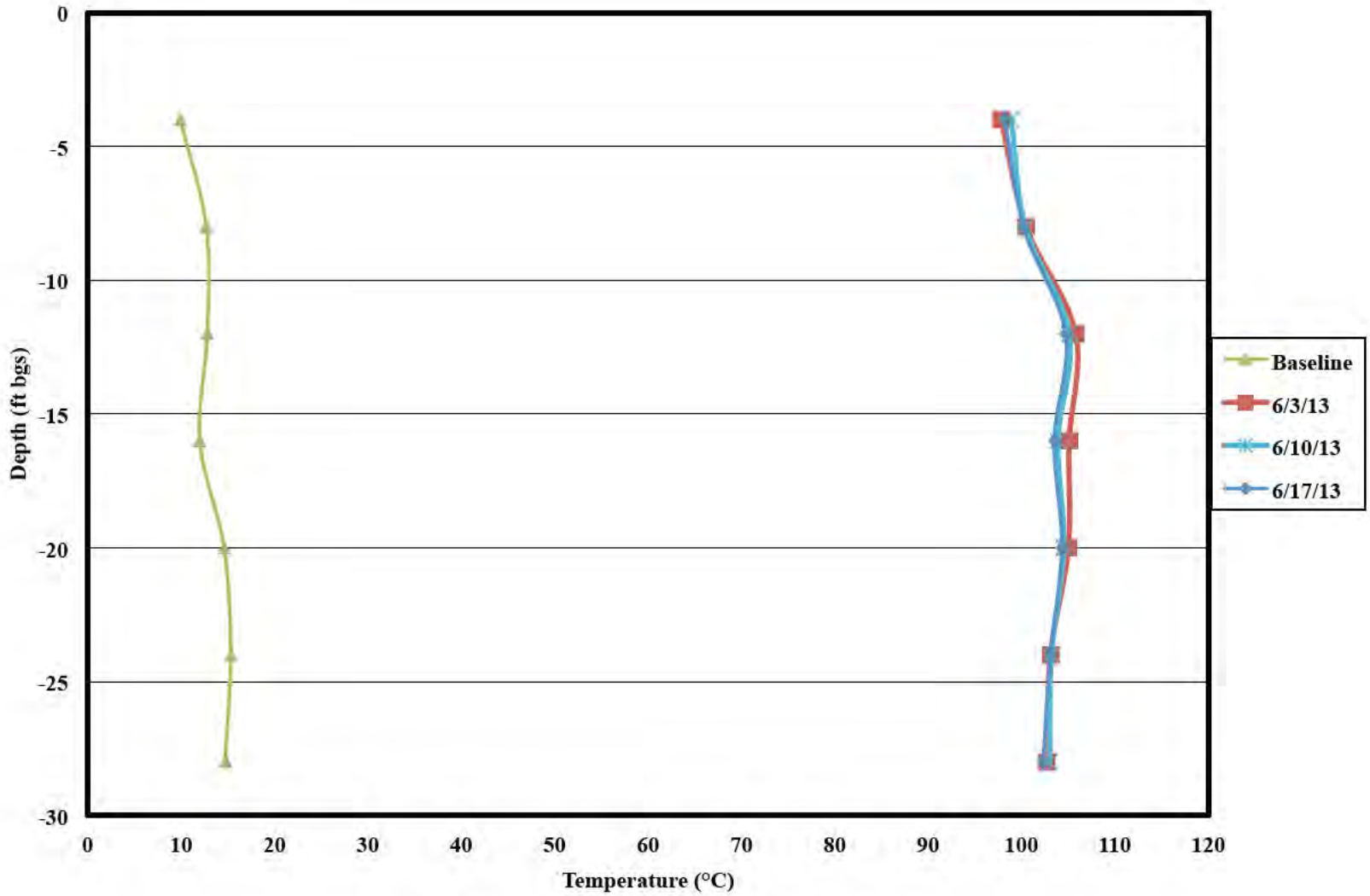

Figure 2d. TMP D7 Temperature vs. Depth

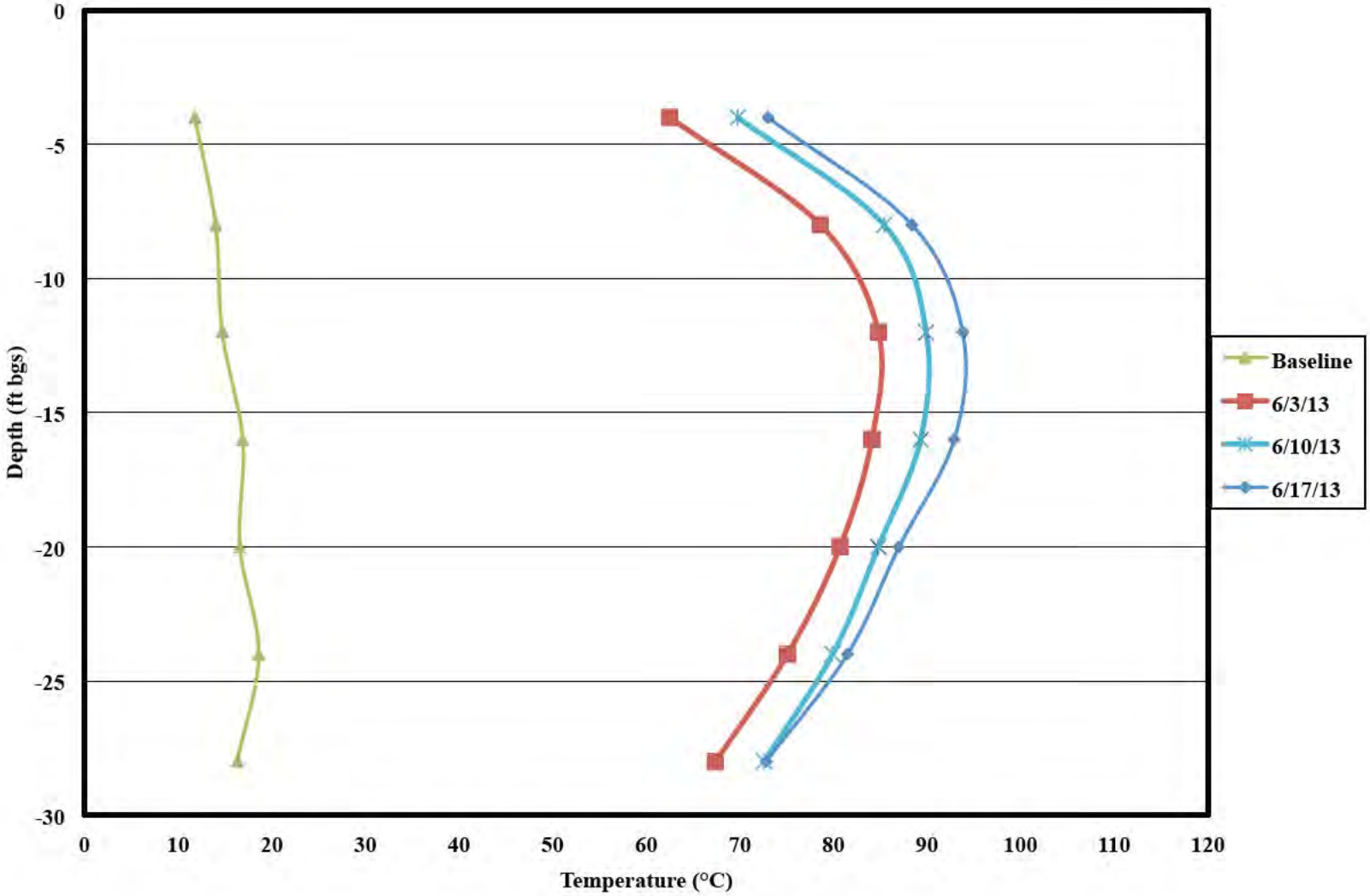

Figure 2e. TMP E4 Temperature vs. Depth

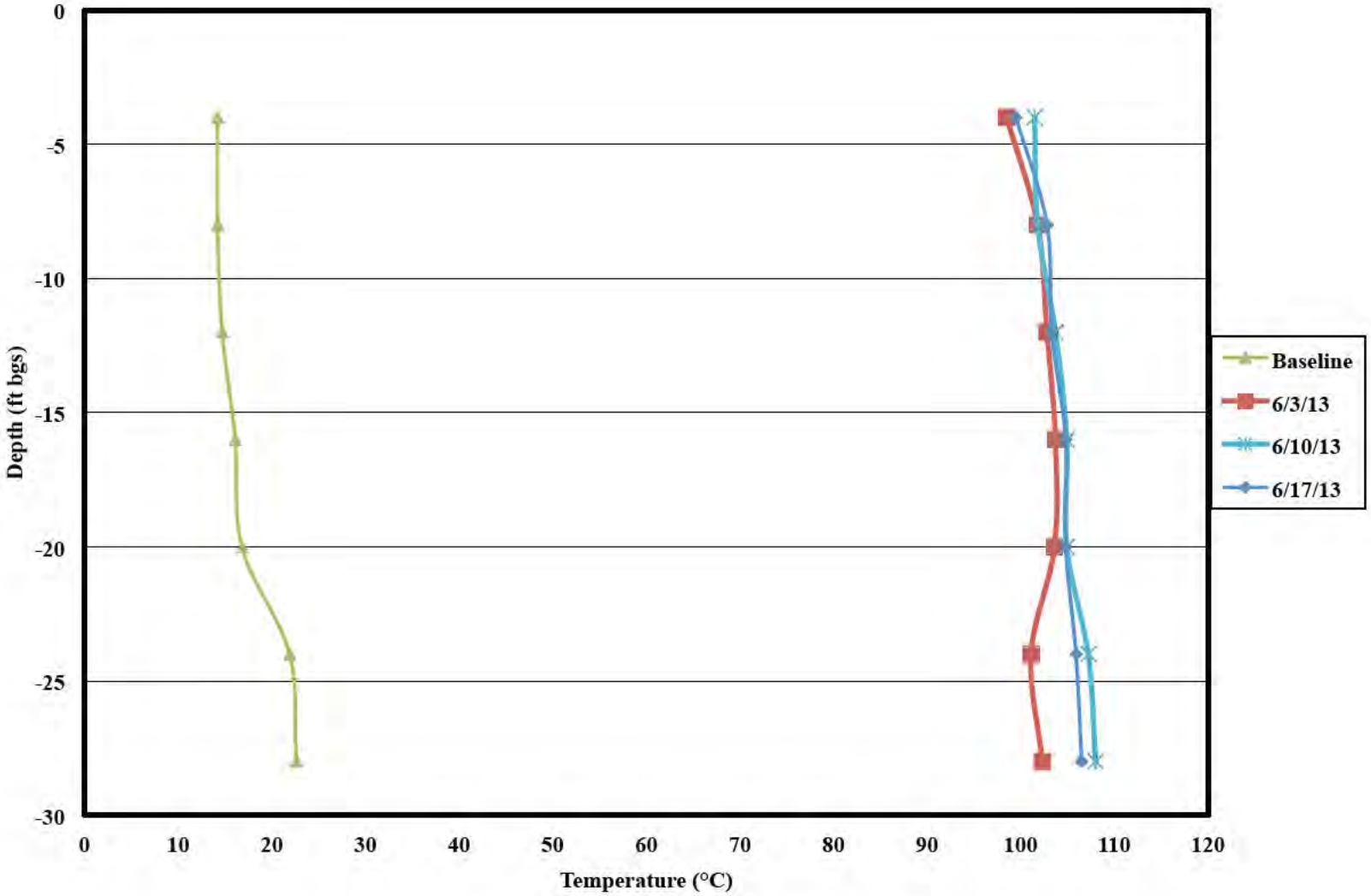

Figure 2f. TMP E9 Temperature vs. Depth

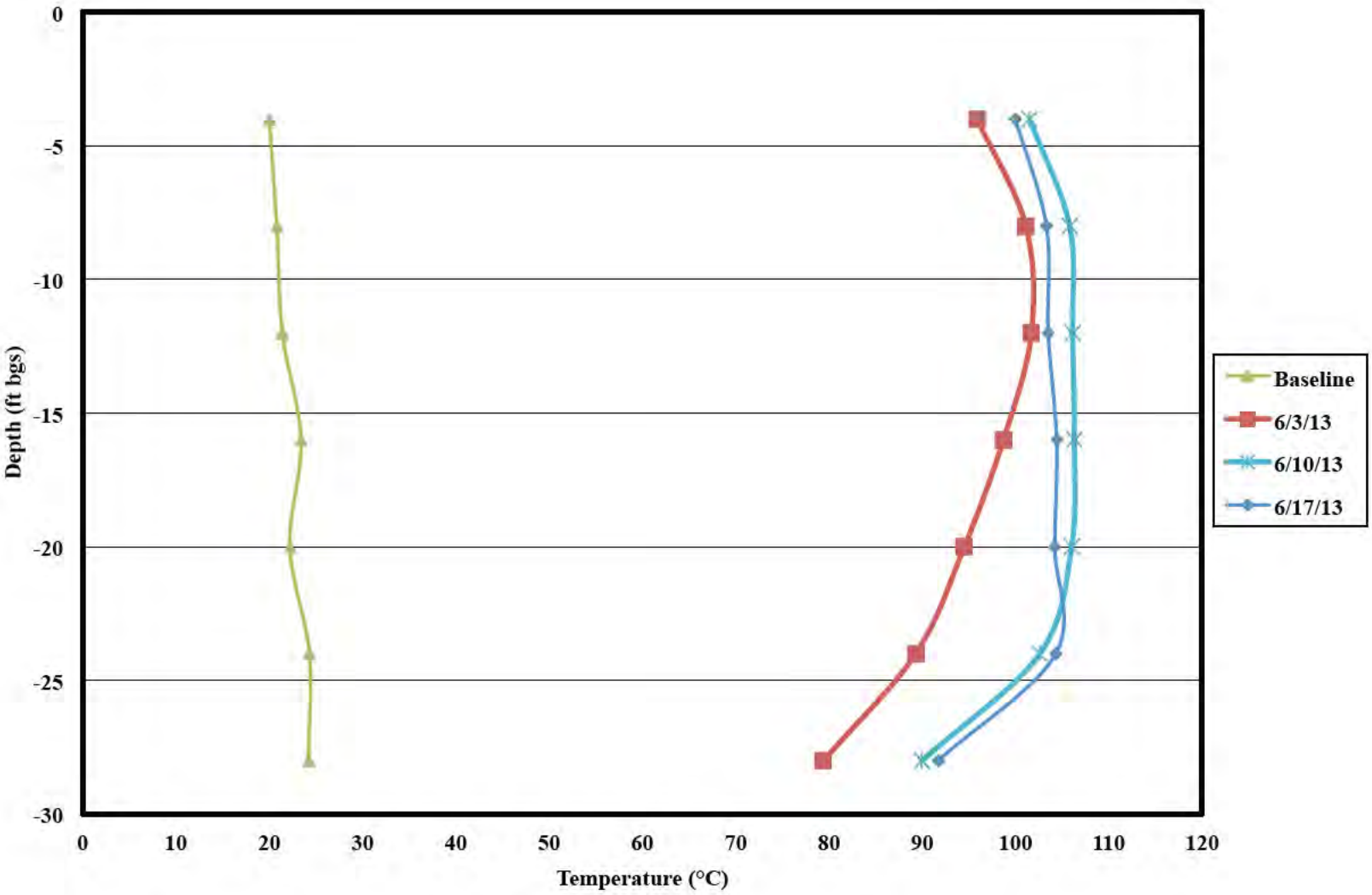

Figure 2g. TMP F6 Temperature vs. Depth

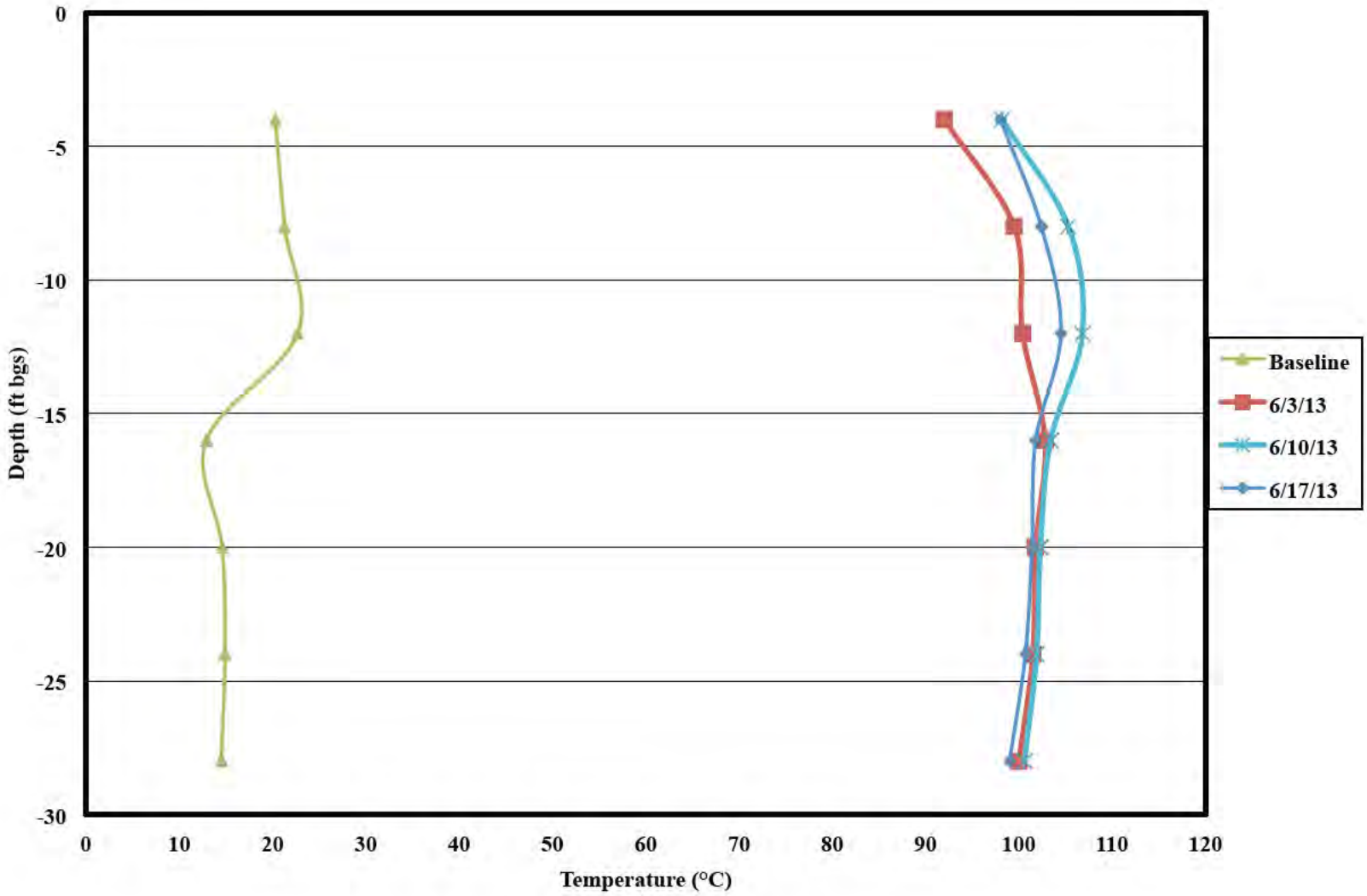

Figure 2h. TMP F7 Temperature vs. Depth

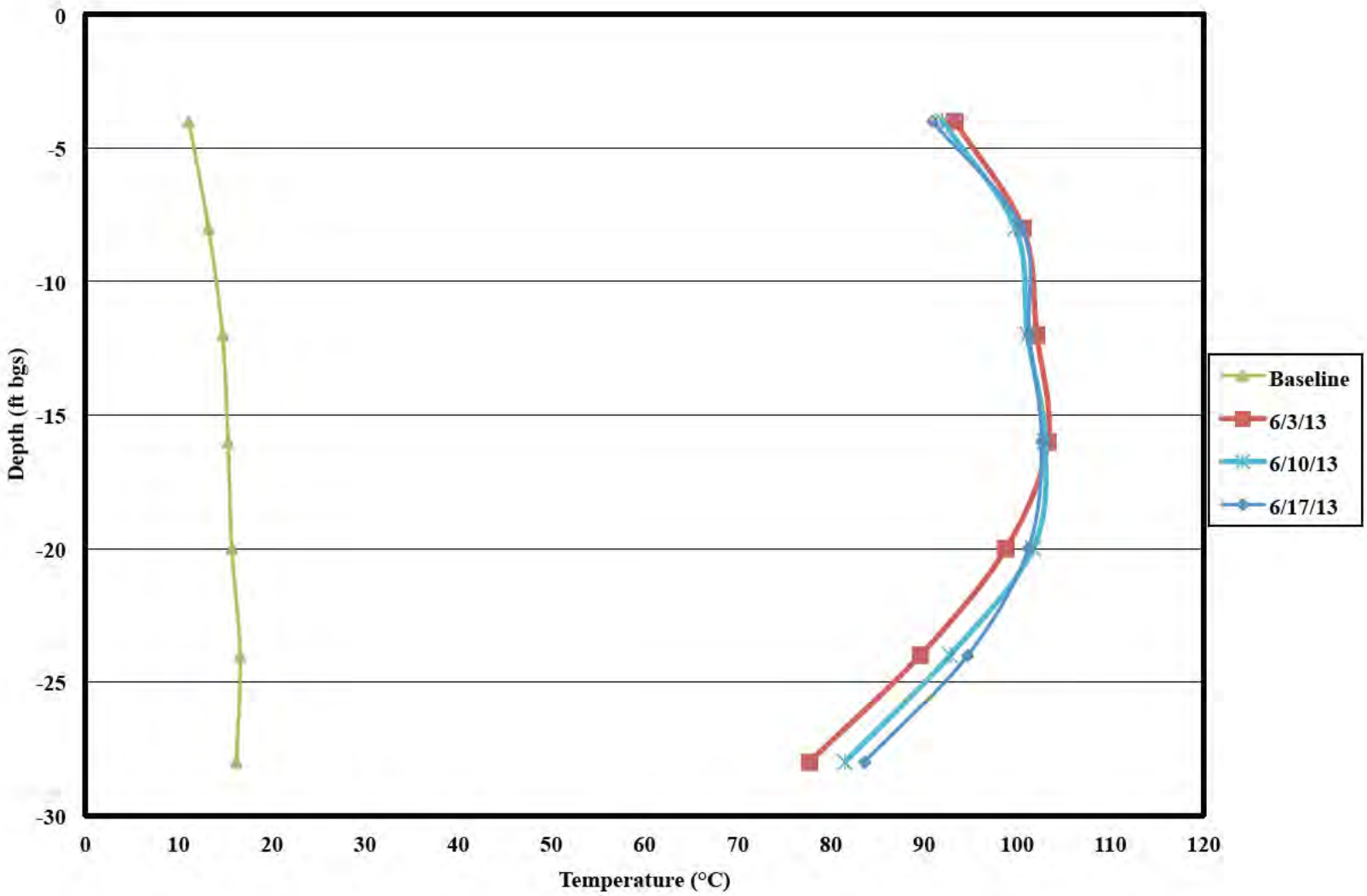

Figure 2i. TMP H7 Temperature vs. Depth

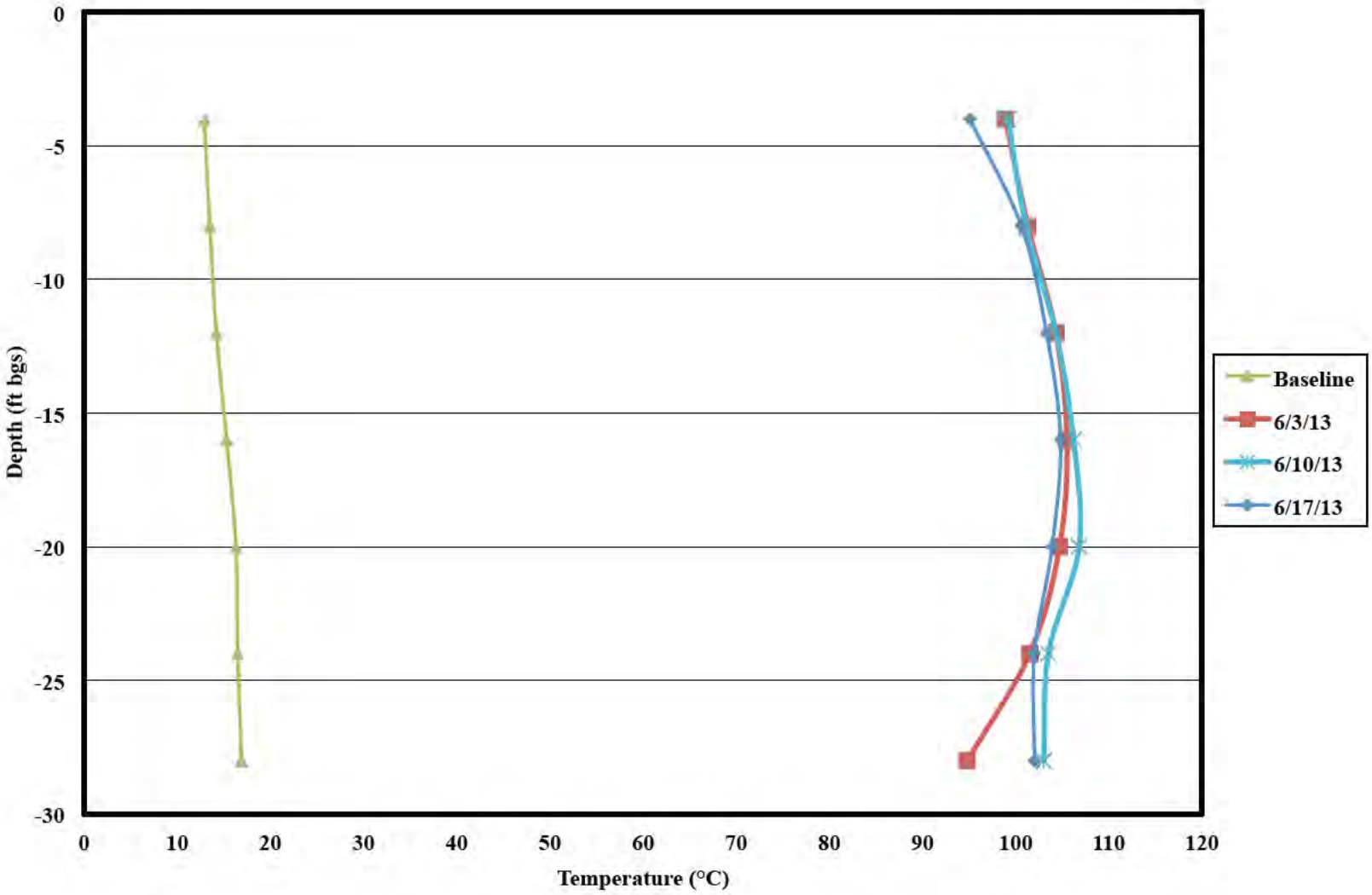

Figure 2j. TMP H10 Temperature vs. Depth

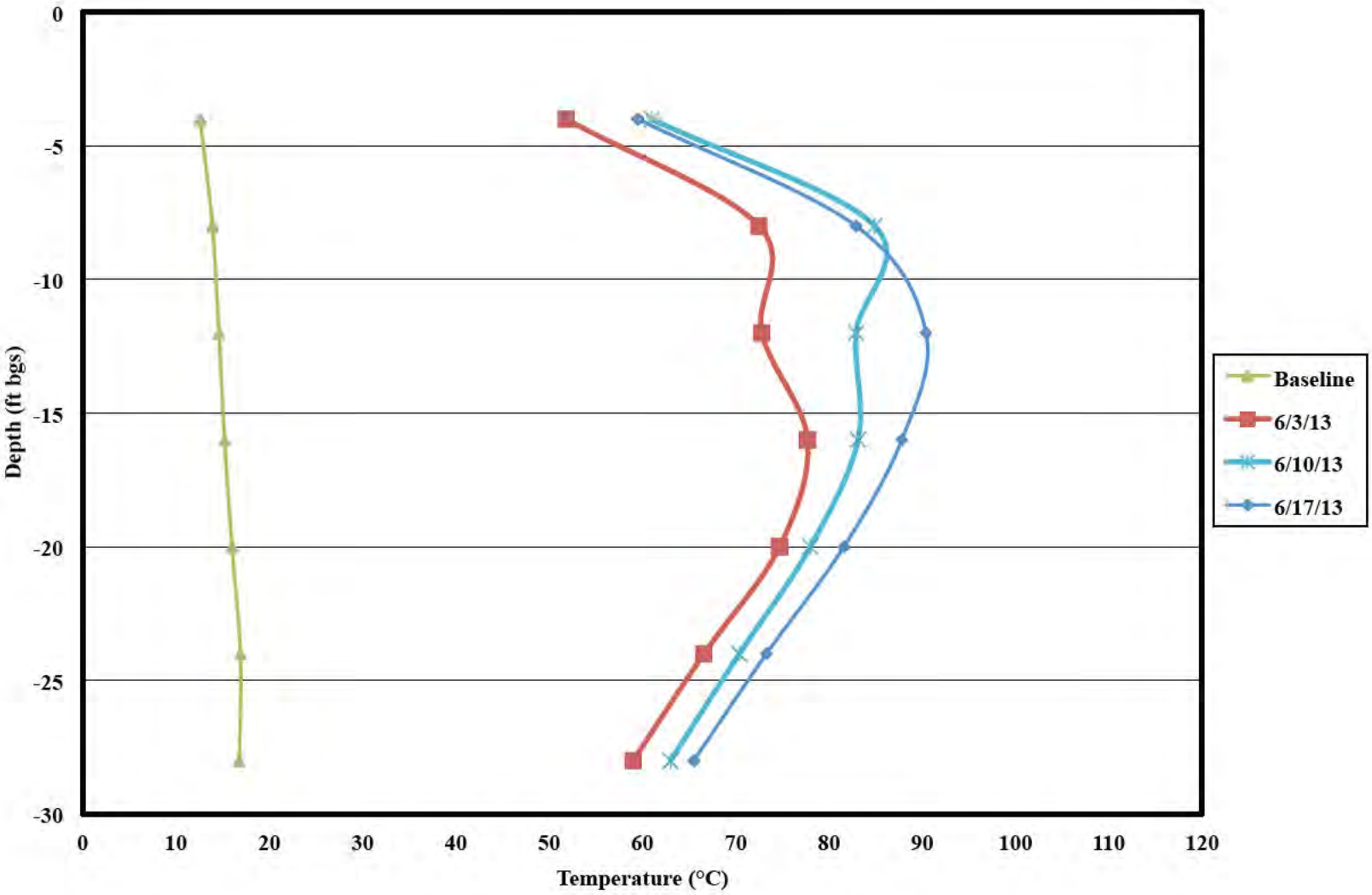

Figure 2k. TMP K8 Temperature vs. Depth

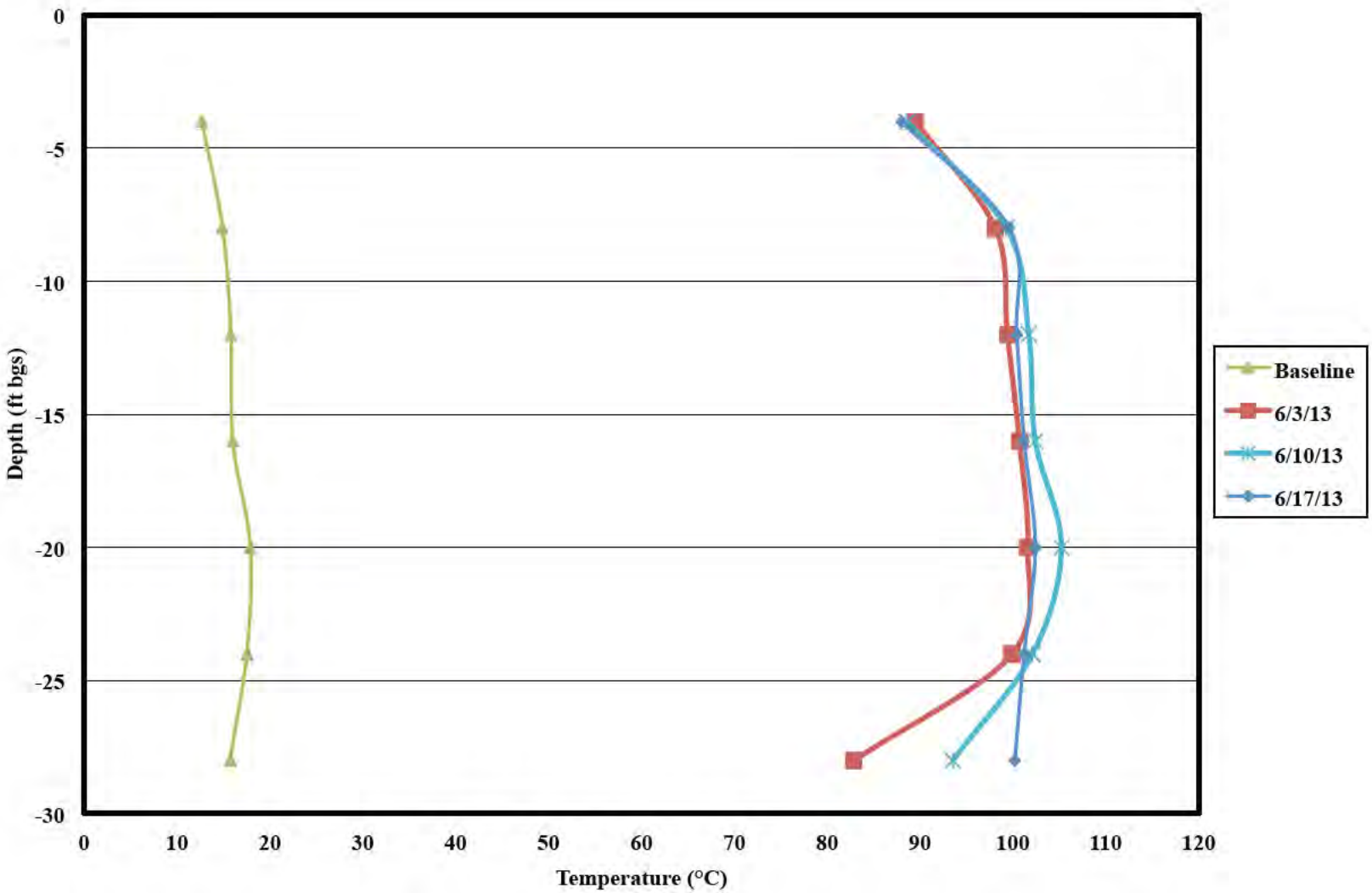

Figure 21. TMP K10 Temperature vs. Depth

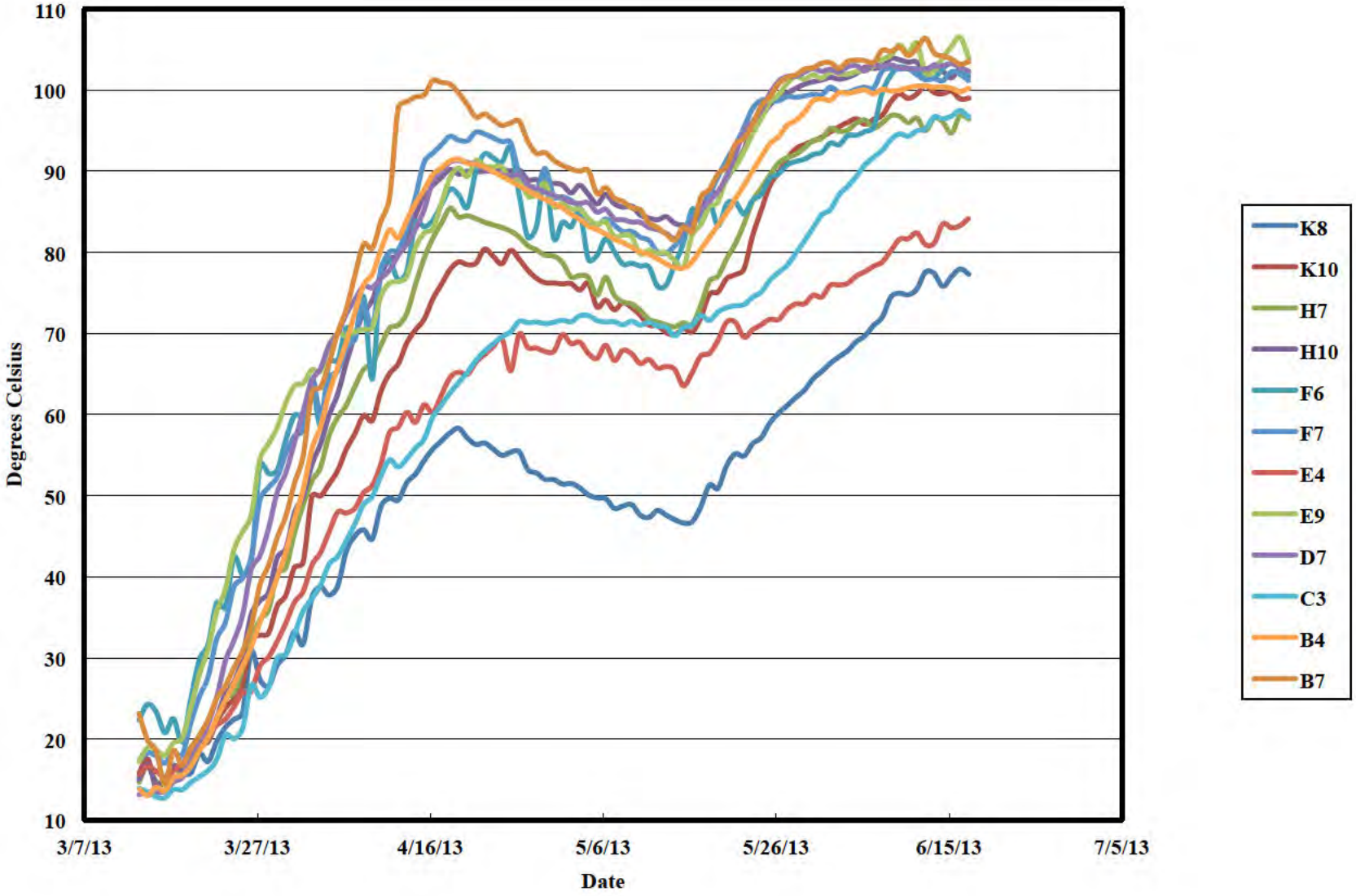

Figure 3. Average Subsurface Temperatures

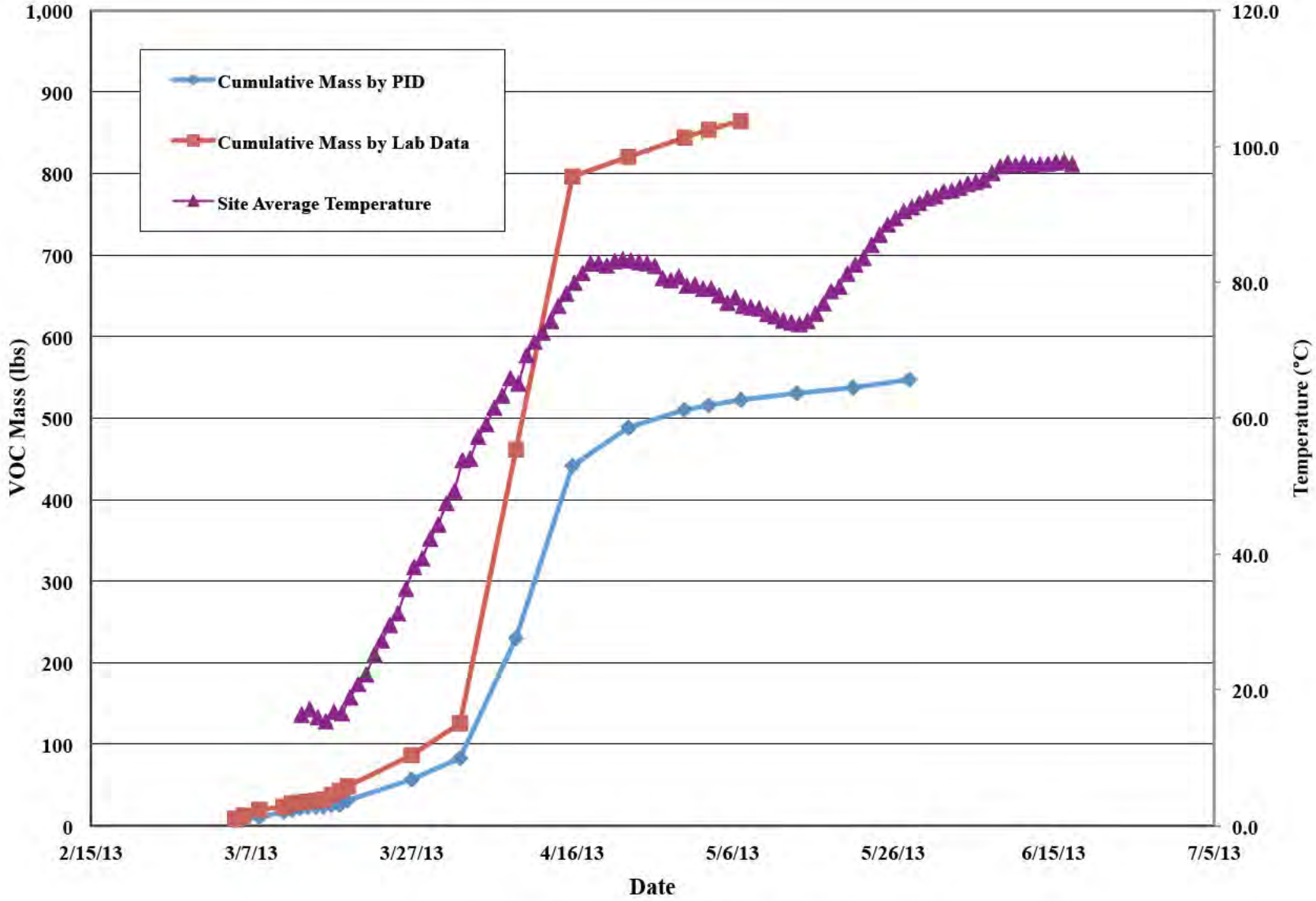

Figure 4. Cumulative Mass Removed

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June 26, 2013

Ms. Mindy DeYoung
Riddell Williams P.S.
1001 Fourth Avenue, Suite 4500
Seattle, WA 98154-1192

Subject: Electrical Resistance Heating Weekly Status Report
June 17, 2013 to June 24, 2013
Heavens Supply Site
7009 Greenwood Avenue, Seattle, Washington 98103

Dear Ms. DeYoung,

This status report presents a summary of the Electrical Resistance Heating (ERH) related activities at 7009 Greenwood Avenue, Seattle, Washington (Site). The time period addressed in this report is from June 17, 2013 through June 24, 2013. A summary of field activities, ERH system status, and upcoming work are presented in the following sections.

ERH Application Summary

The key ERH system operational parameters for the reporting period are presented in **Table 1**, which includes data from the previous reporting period for comparison.

Table 1. ERH System Operating Parameters

ERH System Parameters	June 24, 2013	June 17, 2013
Weekly Average Power (kW)	660	832
Cumulative Energy Applied (kWh)	1,611,414	1,500,609
Average Subsurface Temperature (°C)	97.3	97.3
Average Vapor System Flow Rate (scfm)	676	702

TRS personnel were onsite throughout the reporting period. Tasks accomplished during the reporting period included:

- Daily collection of ERH system operation data and optimization of system performance.
- Completed routine equipment maintenance activities.
- Collected weekly vacuum readings from all available VR piping headers.
- Collected vacuum readings from each of the nine vacuum control points (VCPs) as well as from each side of the vent/block/vent utility abandonment.
- Completed a 4,000 pound vapor phase granular activated carbon (VGAC) changeout from both secondary vessels.

- Completed a 400 pound liquid phase granular activated carbon (LGAC) changeout from both the primary and secondary LGAC vessels.

The vapor recovery and vapor abatement systems operated within design parameters and in compliance with the Puget Sound Clean Air Agency (PSCAA) air permit conditions during the reporting period.

Treatment Region Temperatures

Treatment region temperatures are monitored at twelve temperature monitoring points (TMPs) containing thermocouples arrayed vertically. The average subsurface temperature for the site prior to the initial start of power application was 16.4 degrees Celsius (°C). The average subsurface temperature at the end of this reporting period was 97.3ºC, an increase of 80.9ºC since the start of operations and no change in average temperature over this reporting period. The highest observed subsurface temperature for this reporting period was 109.8ºC, at a depth of 28 feet below grade surface (ft bgs) at TMP E9 on June 19, 2013. For the purpose of adequately illustrating the temperature change, the data was segregated into twelve separate graphs based on the TMP location. Temperatures relative to depth for each TMP are presented in **Figures 2a** through **2l.** Average subsurface temperature over time is presented in **Figure 3**.

Power and Energy

The PCU averaged 660 kilowatts (kW) of applied power to the treatment volume during the reporting period. A total of 1,611,414 kilowatt-hours (kWh) of energy have been applied to the subsurface as of June 24, 2013. This is approximately 53% of the design energy input.

ERH Vapor Recovery and Mass Removal

The vapor stream flow rate as measured after the vapor recovery blower averaged 676 standard cubic feet per minute (scfm) throughout the operating period.

Vapor samples are collected with the other operational data and analyzed onsite using a photo ionization detector (PID) as well as by laboratory analysis. This data and information is used to measure system performance (i.e. pounds of contaminant removed), air permit compliance, and are also factored into future system operations and adjustments. **Table 2** presents the cumulative recovery rate and estimated removed volatile organic compound (VOC) mass based on influent analytical data collected through June 4, 2013. **Figure 4** presents a graph of the cumulative VOC mass removed over time for both analytical data as well as PID field screening. As of June 4, 2013 the estimated total mass recovered is 908 pounds of VOCs.

Planned Activities

TRS personnel will visit the site the week of June 24, 2013 to continue full time operations of the ERH system. The ERH system will be shut down the morning of June 26, 2013 to allow the site to be down for approximately 24 hours prior to the hot soil sampling that will commence on June 27, 2013. While the active heating will be temporarily discontinued for approximately 5-7 days for the soil sampling effort, the vapor recovery system will continue to operate.

Should you have any questions concerning this report, or if you would like any additional information, please contact either me or Lynette Stauch by phone at (720) 940-4885 and (505) 281-9553, respectively.

Sincerely,

TRS Group, Inc.

Jeff Brink

Project Manager

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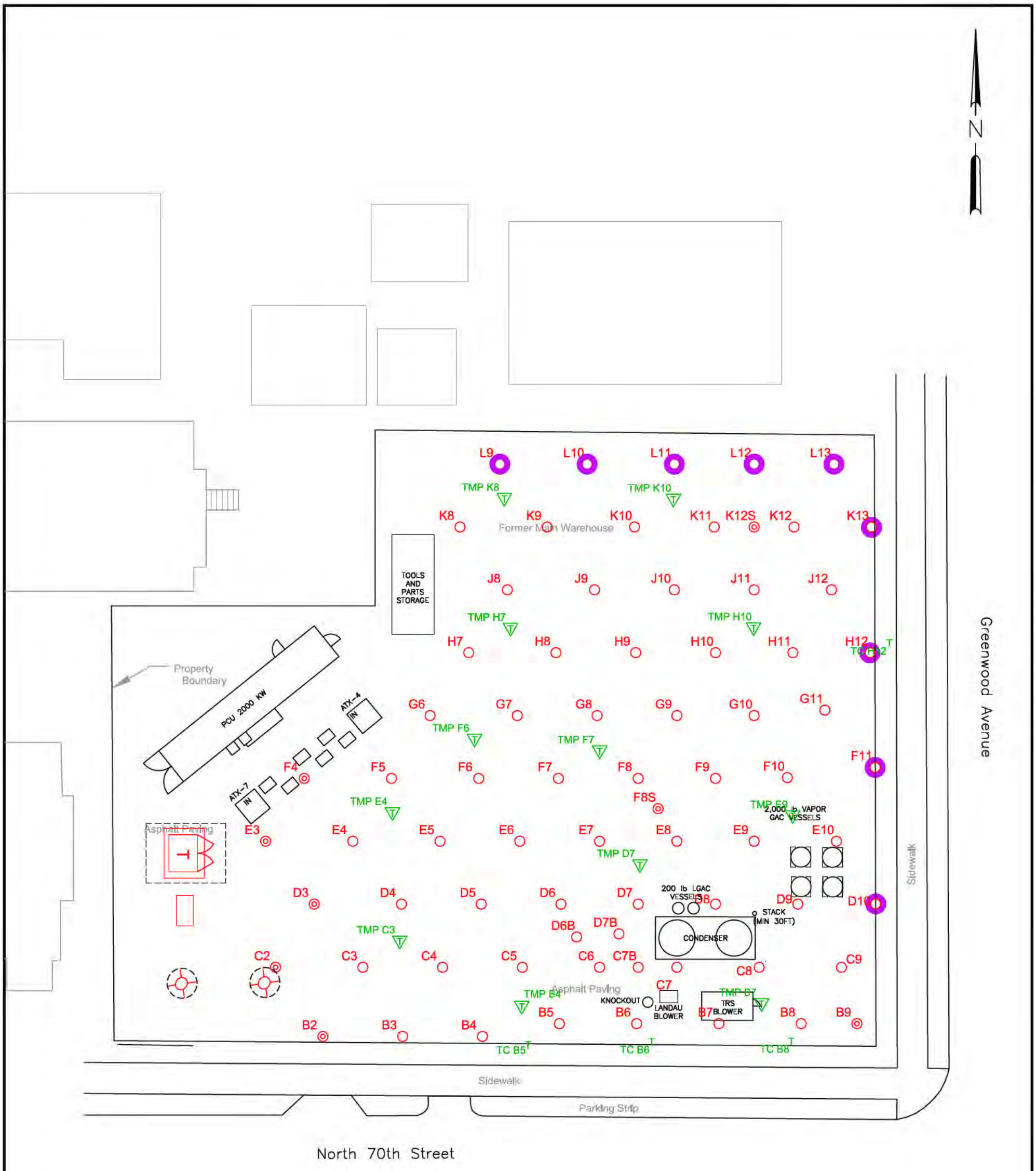
Figure 2i – TMP H7 Temperature vs. Depth
Figure 2j – TMP H10 Temperature vs. Depth
Figure 2k – TMP K8 Temperature vs. Depth
Figure 2l – TMP K10 Temperature vs. Depth
Figure 3 – Average Subsurface Temperature vs. Time
Figure 4 – Cumulative Mass Removed

cc: Lynette Stauch, TRS
Piper Roelen, Landau
Tim Warner, TRS

ATTACHMENTS



LEGEND

- DEEP ELECTRODE (56)
- DUAL DEEP ELECTRODE (9)
- SHALLOW ELECTRODE (8)
- TEMPERATURE MONITORING POINT (12)
- T THERMOCOUPLE (4)

0' 20' 40'

TRS Accelerating Value

DESIGNED BY C. CROWNOVER	FOR HEAVEN SUPPLY, SEATTLE, WASHINGTON
DRAWN BY C. CROWNOVER	
CHECKED BY TRS	ERH SYSTEM DESIGN
PROJECT MANAGER J. BRINK	
APPROVED FOR IMPLEMENTATION BY _____ FOR _____ DATE	DATE 12/06/11 · PROJECT SEA19 · SHEET FIGURE 1

Table 2. ERH System VOC Mass Removal (based on analytical data)

Date	Mass Removed (lb)	Total Mass Removed (lb)
3-5-13	9	9
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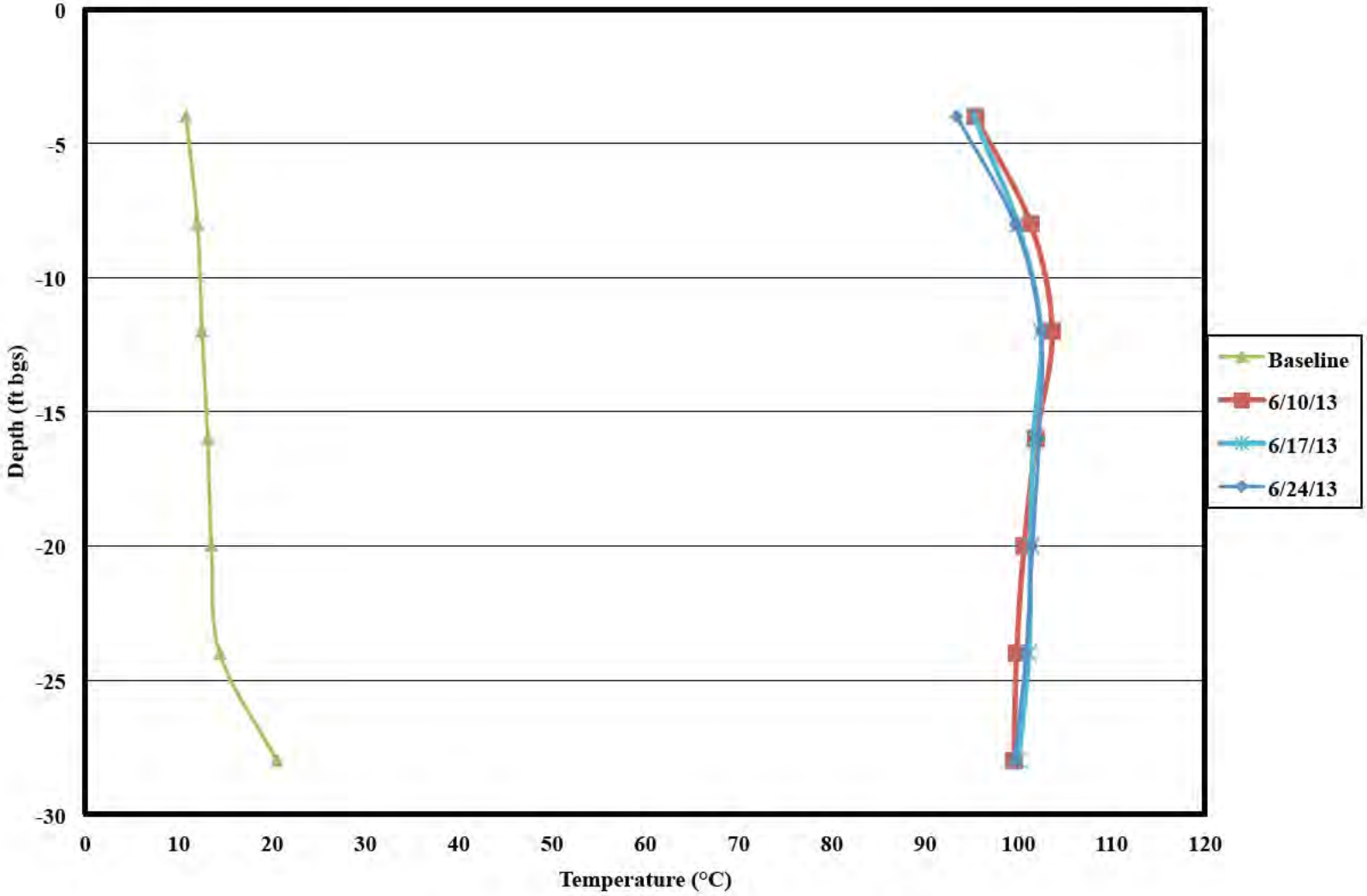

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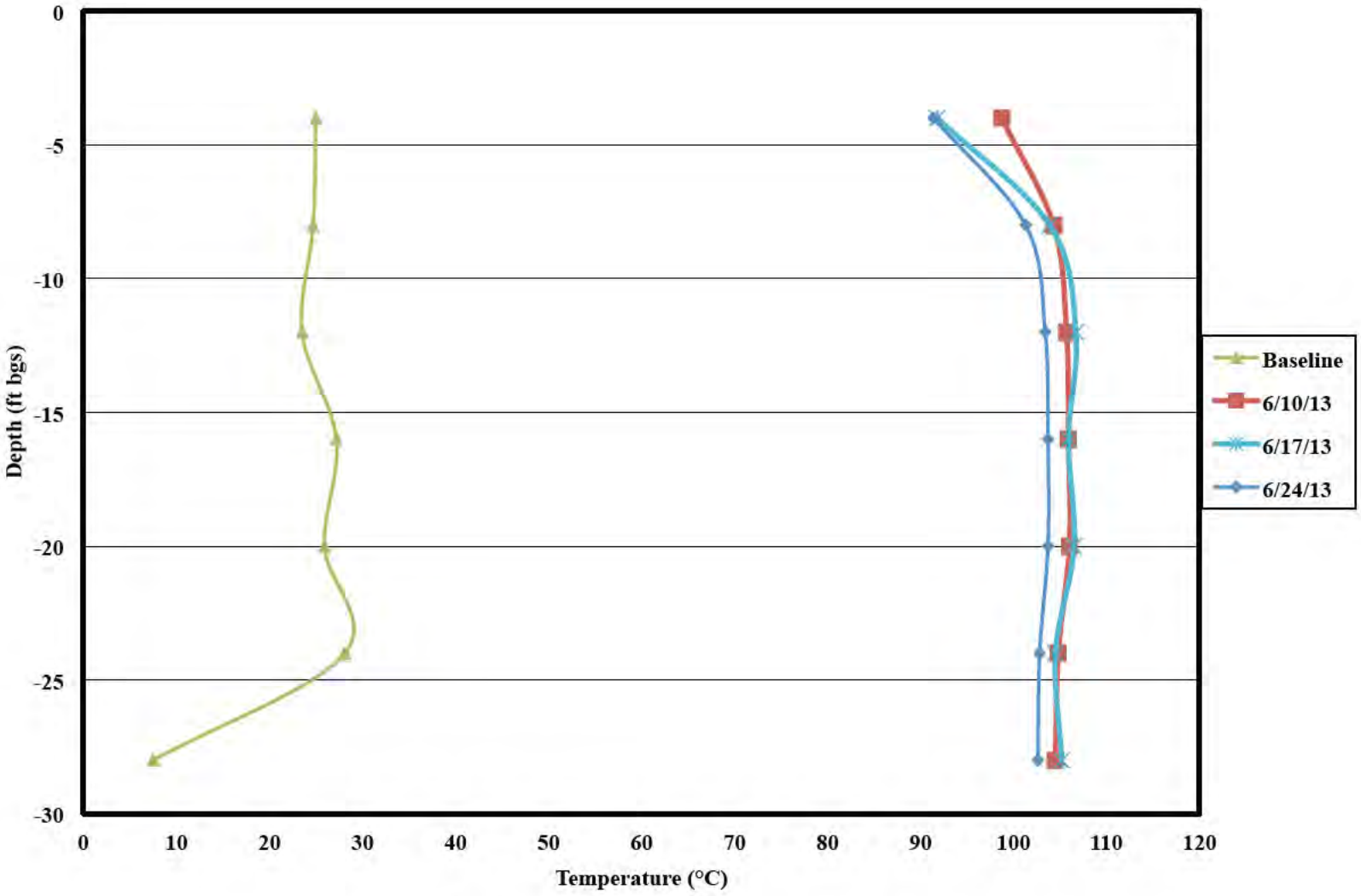


Figure 2b. TMP B7 Temperature vs. Depth

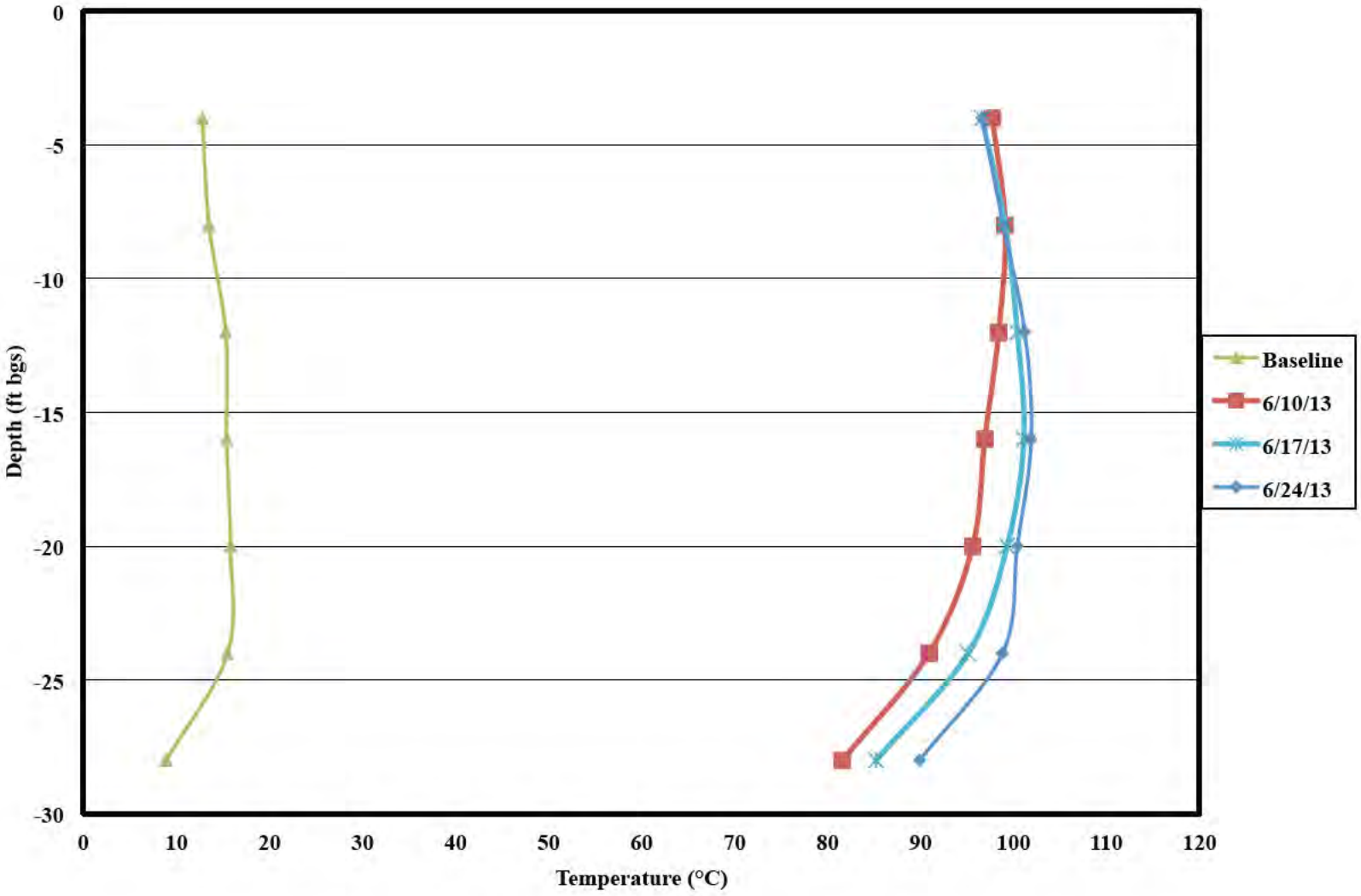


Figure 2c. TMP C3 Temperature vs. Depth

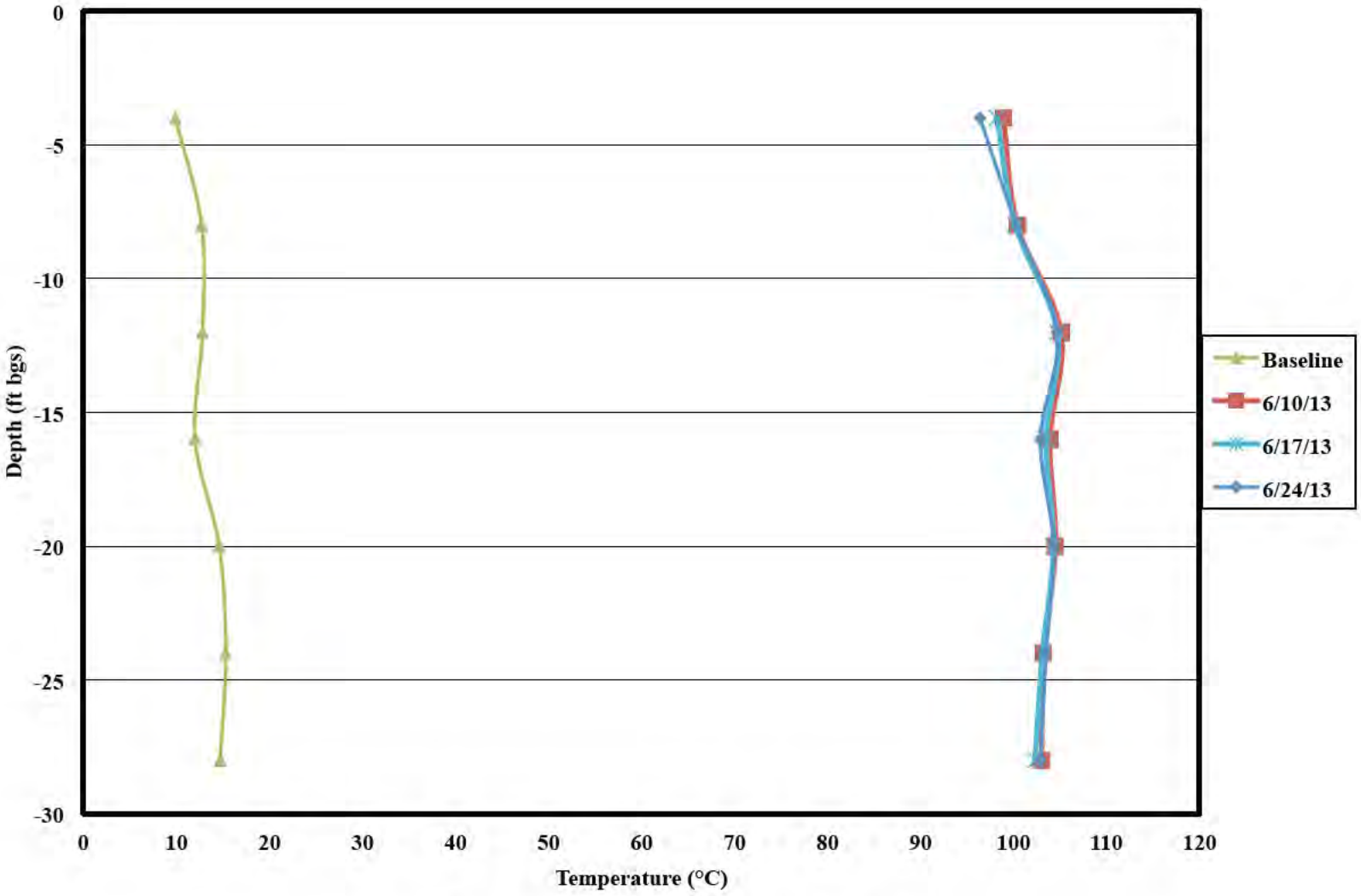


Figure 2d. TMP D7 Temperature vs. Depth

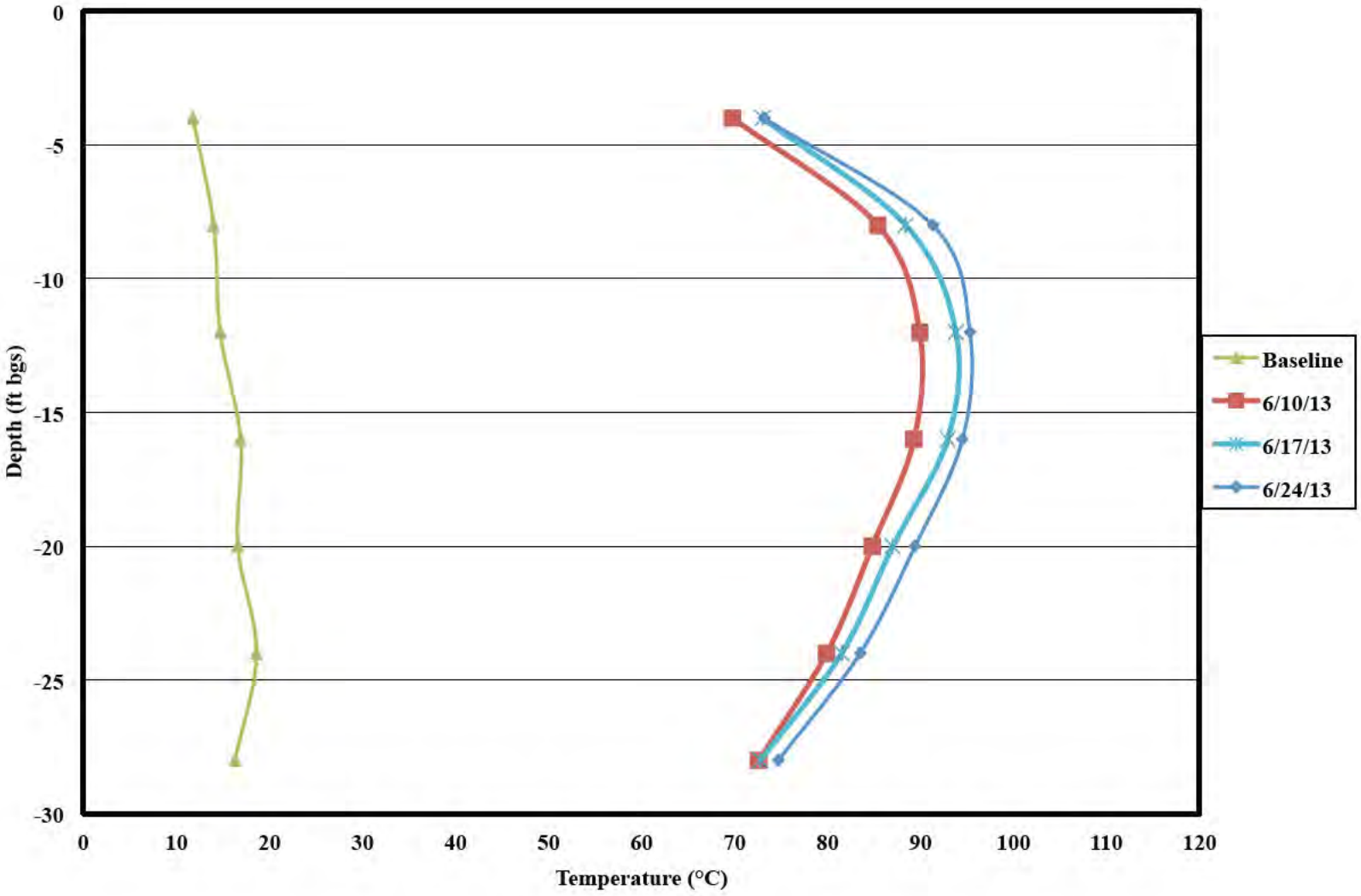


Figure 2e. TMP E4 Temperature vs. Depth

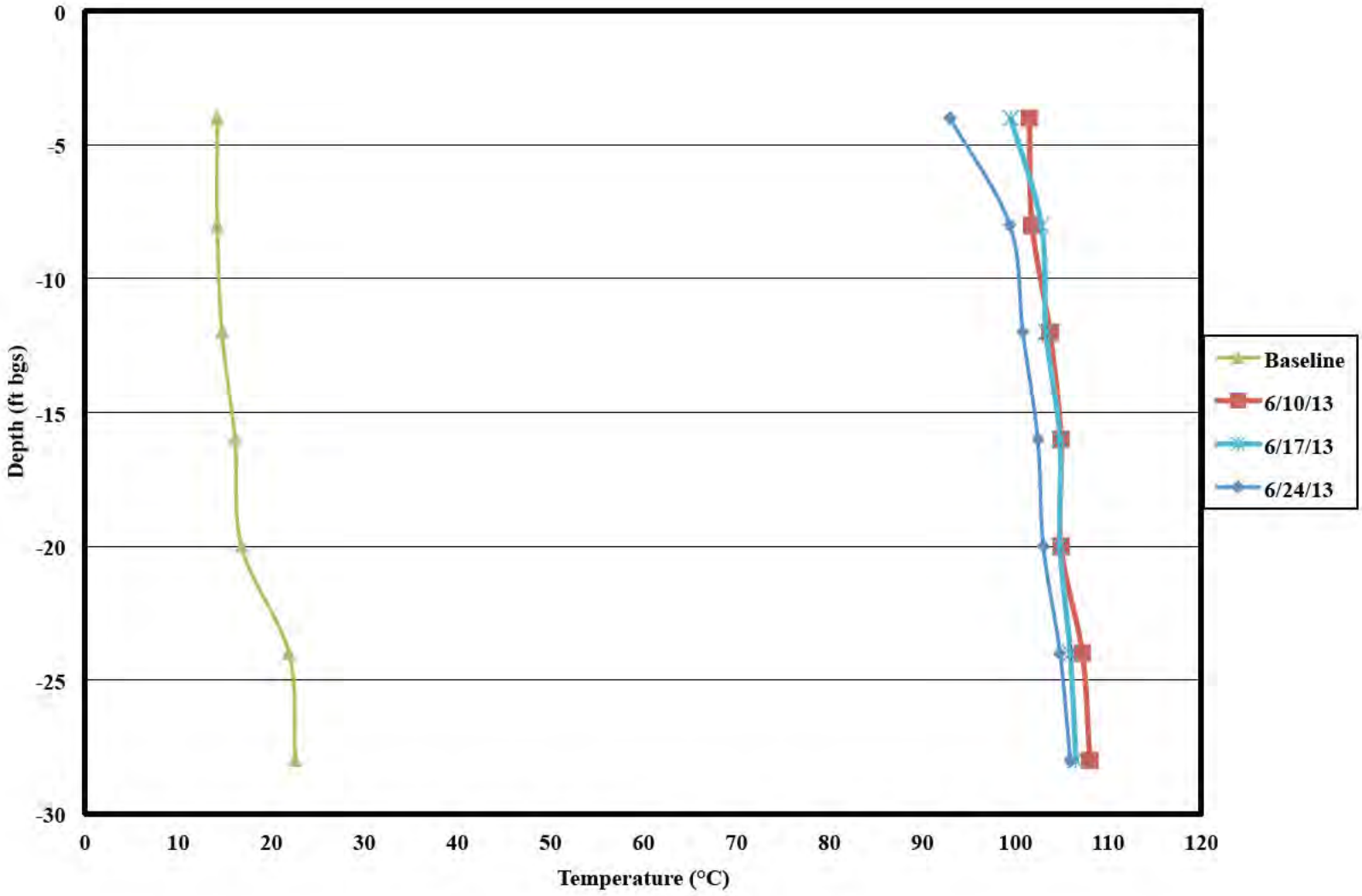


Figure 2f. TMP E9 Temperature vs. Depth

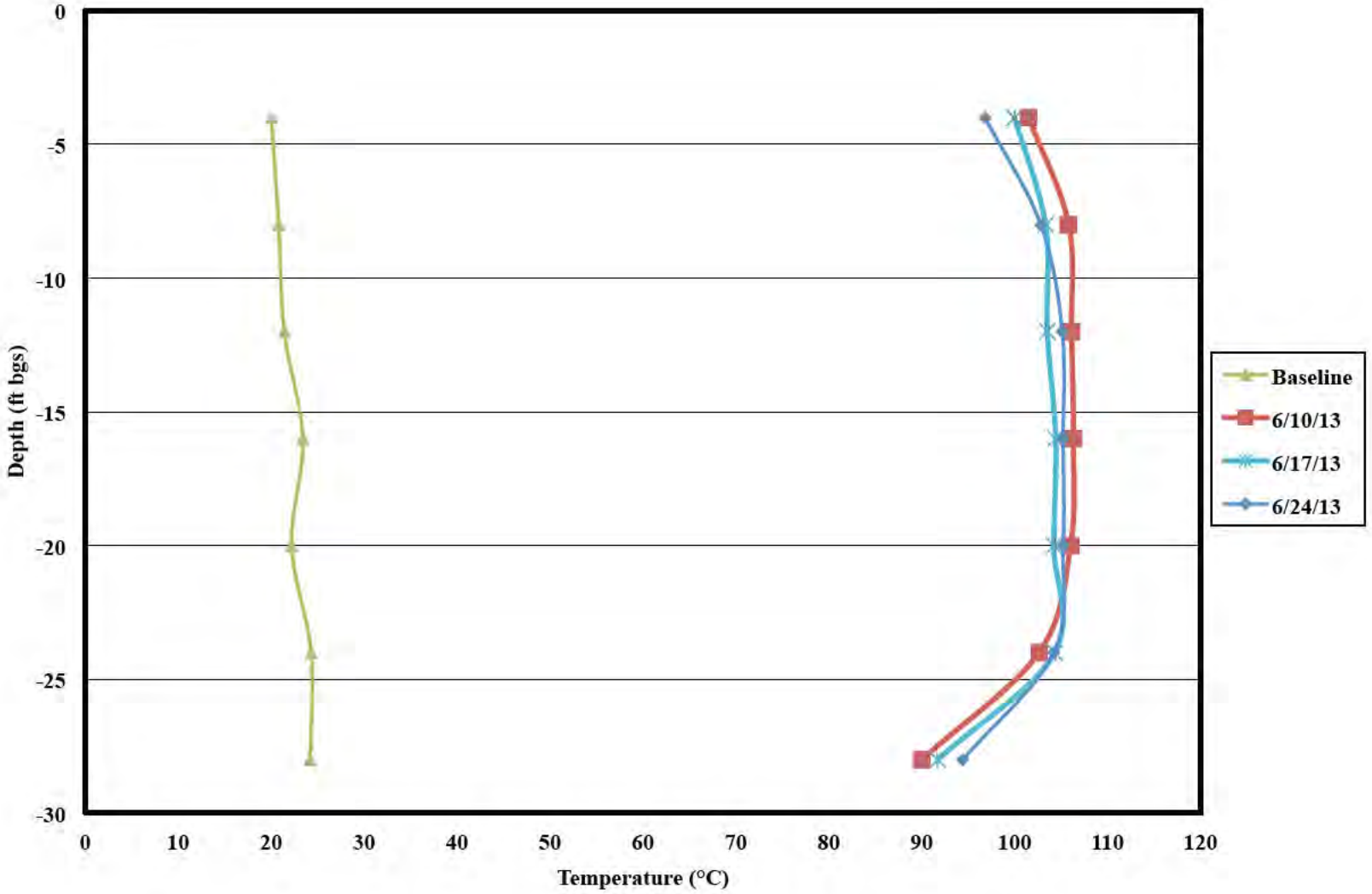


Figure 2g. TMP F6 Temperature vs. Depth

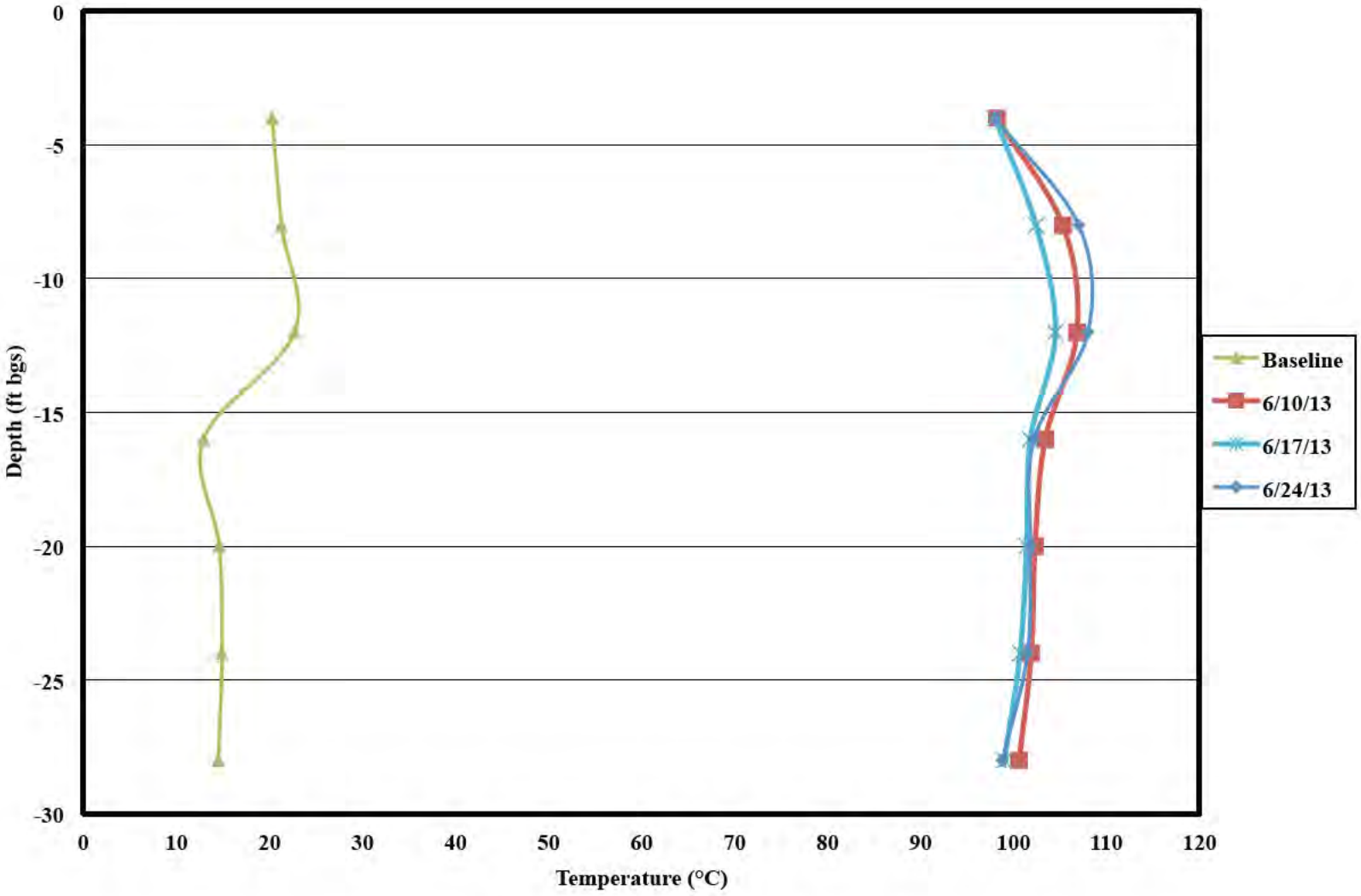


Figure 2h. TMP F7 Temperature vs. Depth

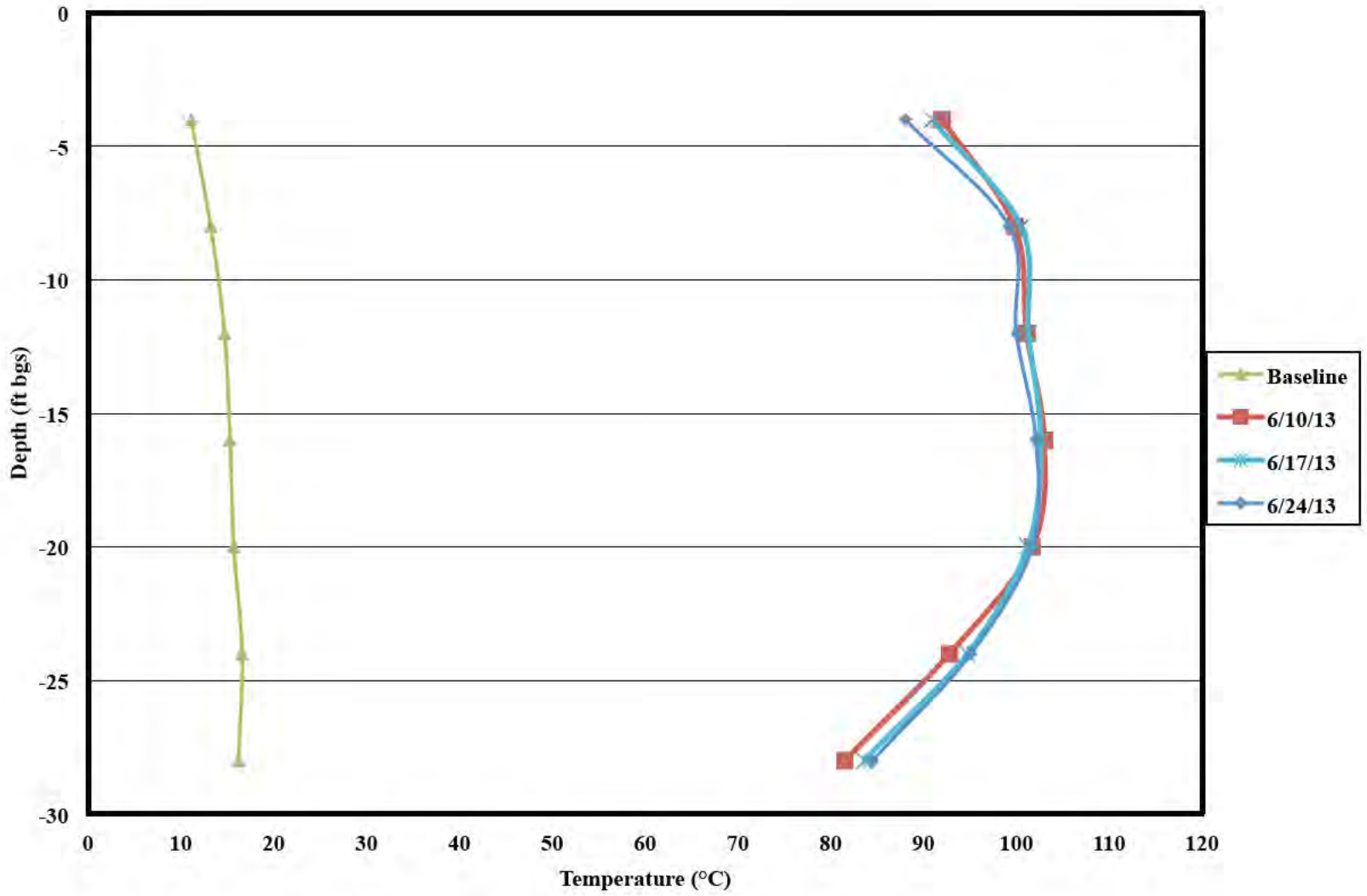


Figure 2i. TMP H7 Temperature vs. Depth

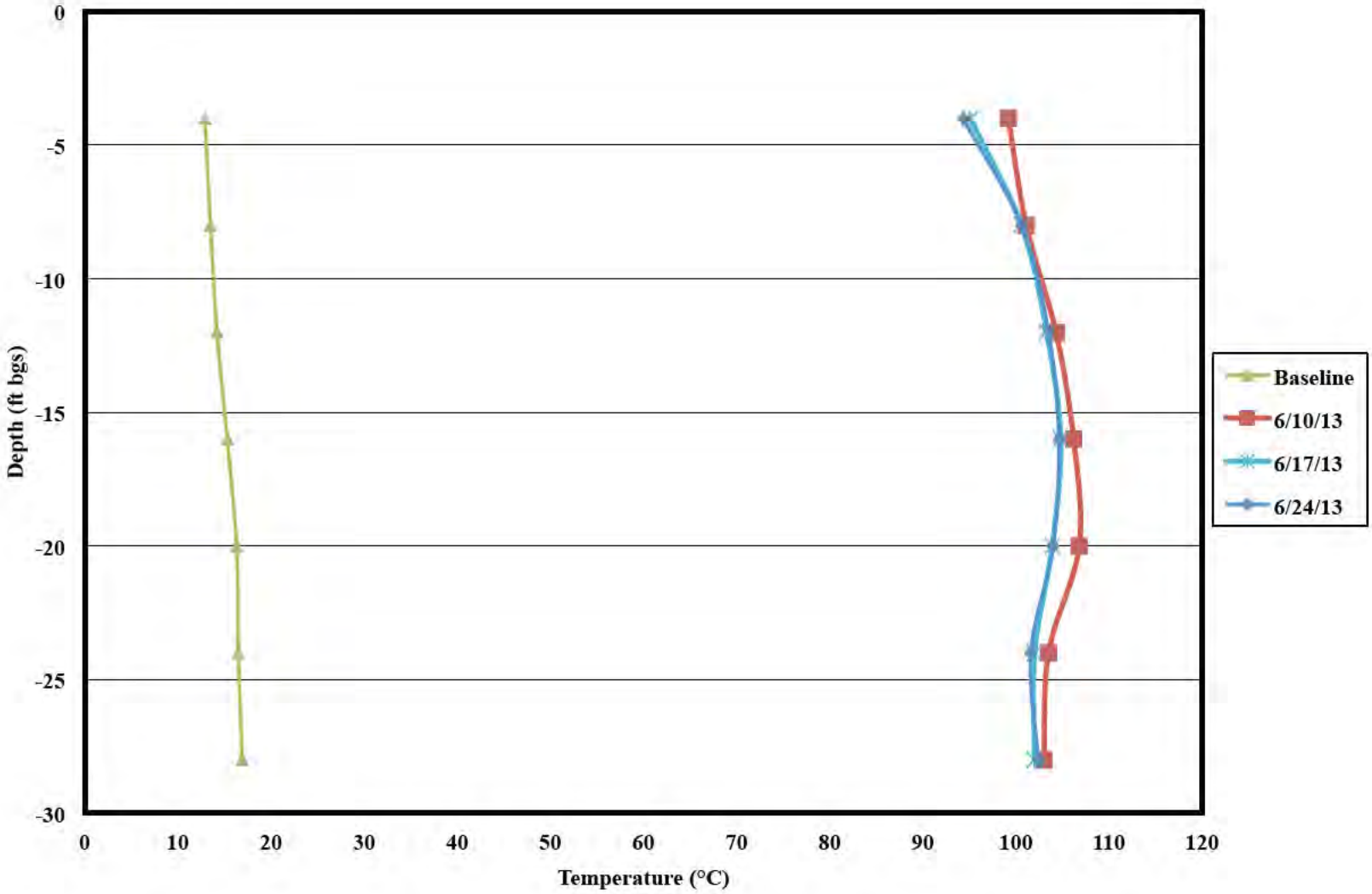


Figure 2j. TMP H10 Temperature vs. Depth

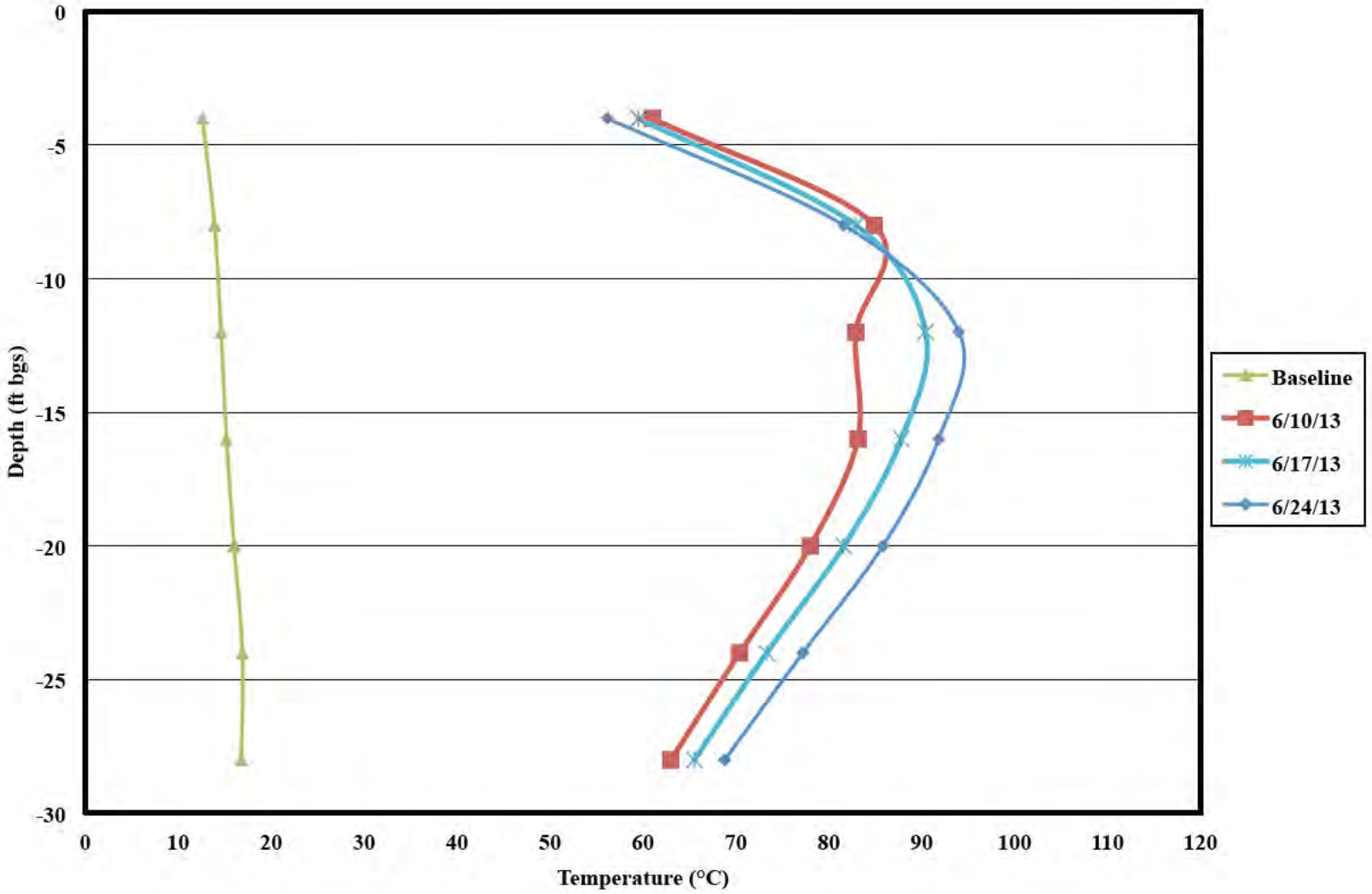


Figure 2k. TMP K8 Temperature vs. Depth

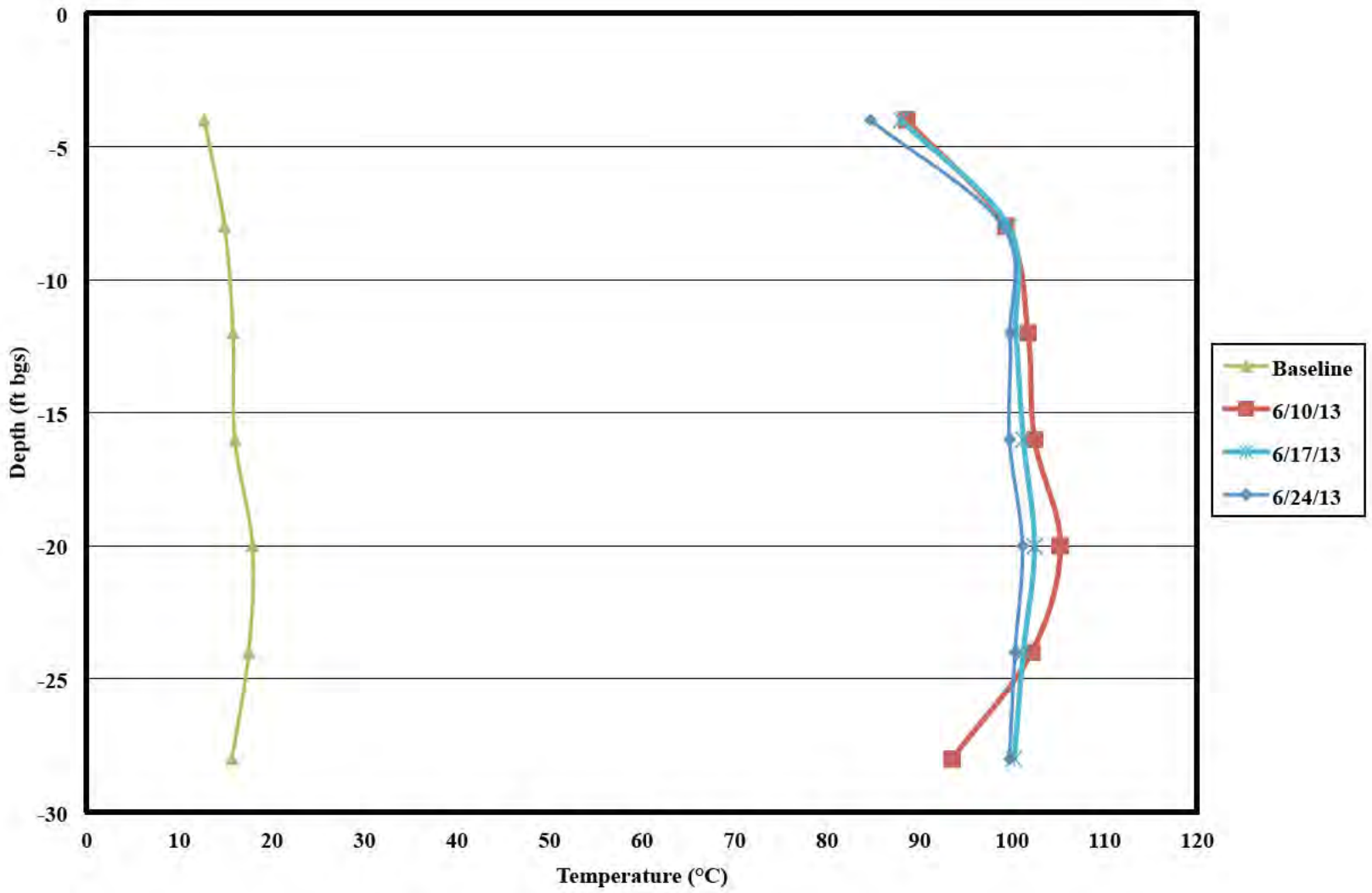


Figure 21. TMP K10 Temperature vs. Depth

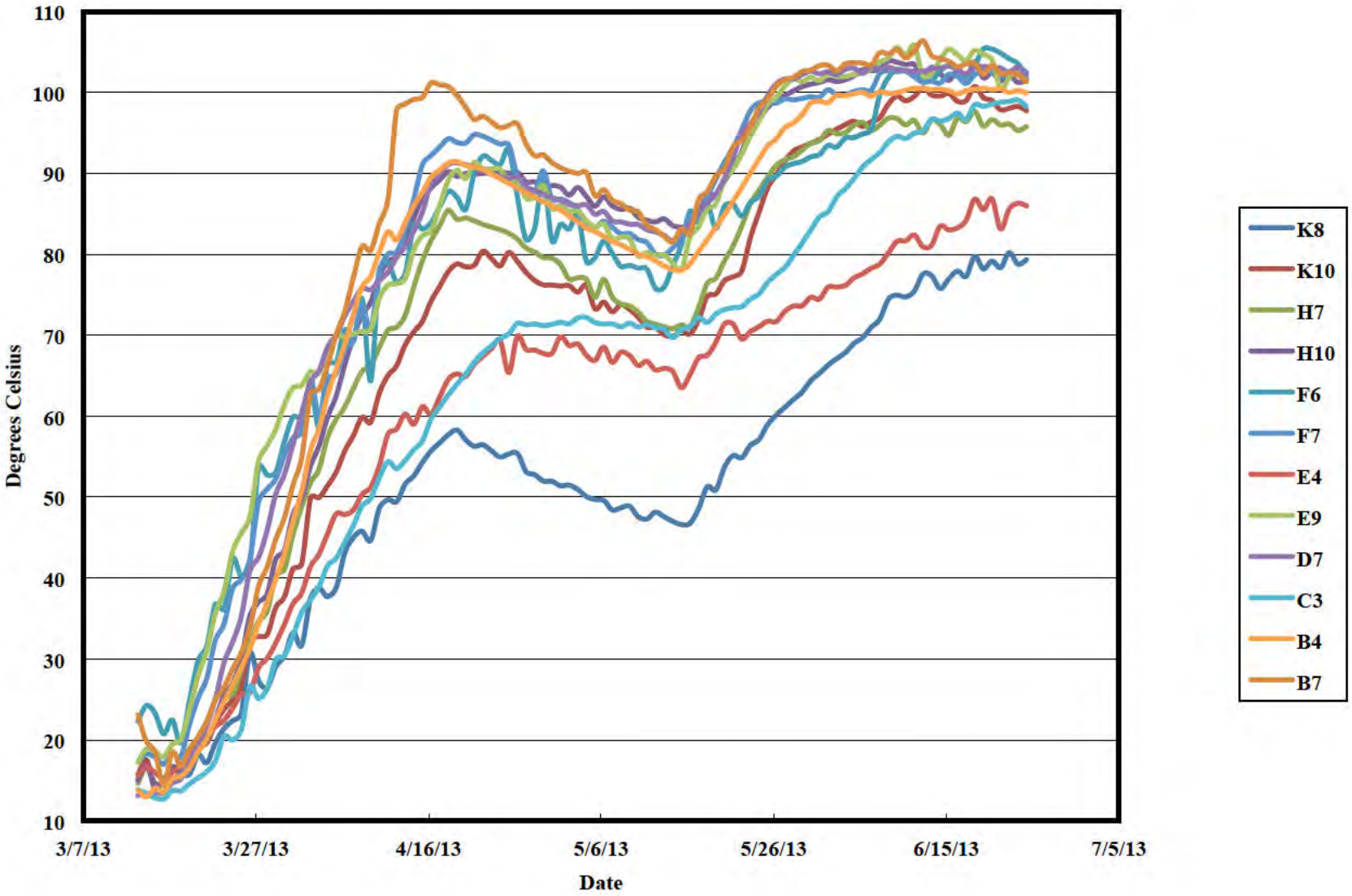


Figure 3. Average Subsurface Temperatures

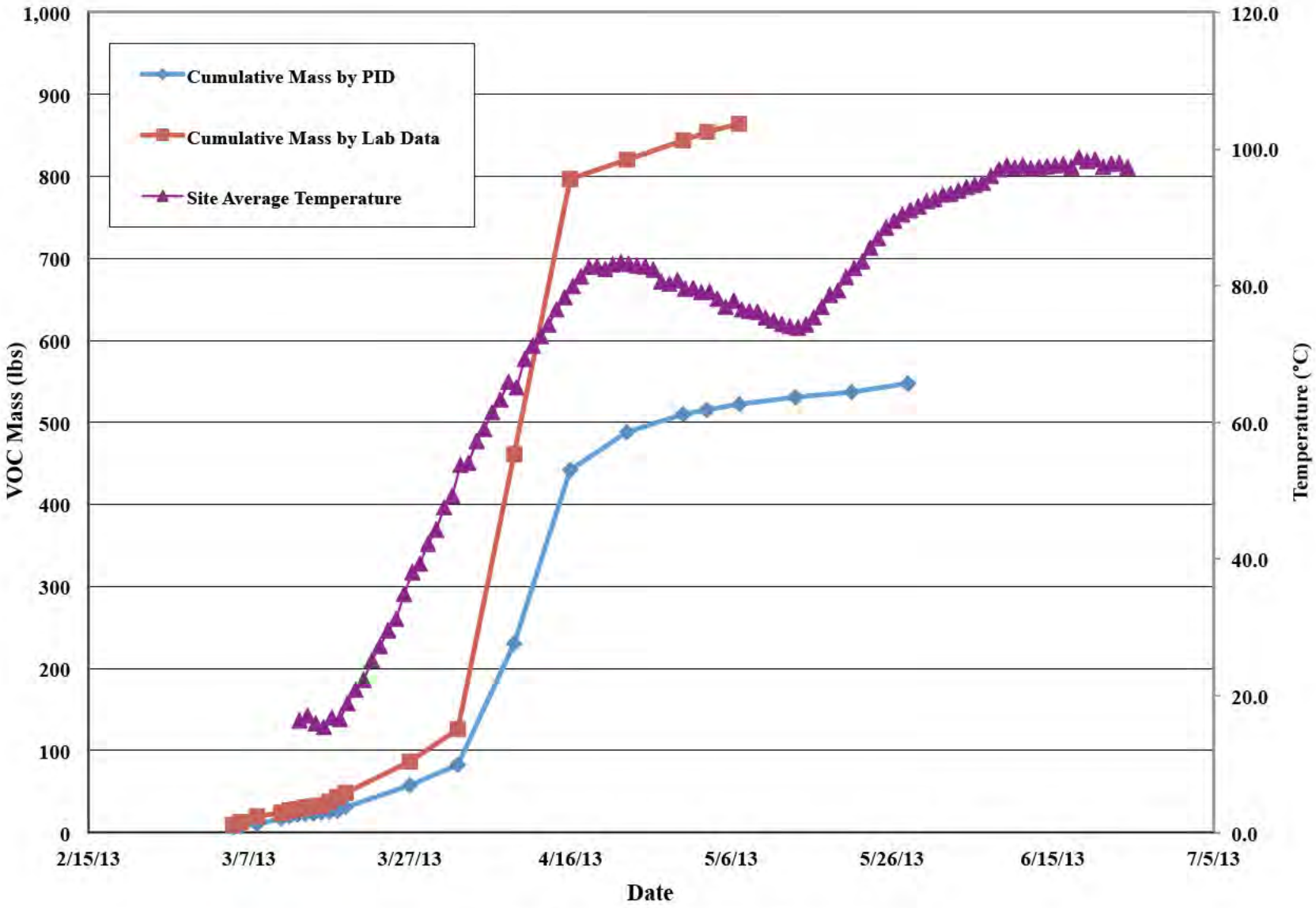


Figure 4. Cumulative Mass Removed

TRS Group, Inc.
PO Box 737
Longview, WA 98632
www.thermalrs.com

July 9, 2013

Ms. Mindy DeYoung
Riddell Williams P.S.
1001 Fourth Avenue, Suite 4500
Seattle, WA 98154-1192

Subject: Electrical Resistance Heating Weekly Status Report
June 24, 2013 to July 1, 2013
Heavens Supply Site
7009 Greenwood Avenue, Seattle, Washington 98103

Dear Ms. DeYoung,

This status report presents a summary of the Electrical Resistance Heating (ERH) related activities at 7009 Greenwood Avenue, Seattle, Washington (Site). The time period addressed in this report is from June 24, 2013 through July 1, 2013. A summary of field activities, ERH system status, and upcoming work are presented in the following sections.

ERH Application Summary

The key ERH system operational parameters for the reporting period are presented in **Table 1**, which includes data from the previous reporting period for comparison.

Table 1. ERH System Operating Parameters

ERH System Parameters	July 1, 2013	June 24, 2013
Weekly Average Power (kW)	182	660
Cumulative Energy Applied (kWh)	1,642,045	1,611,414
Average Subsurface Temperature (°C)	96.3	97.3
Average Vapor System Flow Rate (scfm)	709	676

TRS personnel were onsite throughout the reporting period. Tasks accomplished during the reporting period included:

- Daily collection of ERH system operation data and optimization of system performance.
- Completed routine equipment maintenance activities.
- Collected weekly vacuum readings from all available VR piping headers.
- Collected vacuum readings from each of the nine vacuum control points (VCPs) as well as from each side of the vent/block/vent utility abandonment.
- Power application was shut down on June 26, 2013 in preparation for the first round of confirmation soil sampling that began on June 27, 2013. TRS anticipates completion of soil

sampling event on Monday, July 8, 2013. to optimize the power application after receipt of the analytical results and TRS will optimize the system based on analytical results and resume normal operations on July 8, 2013.

The vapor recovery and vapor abatement systems operated within design parameters and in compliance with the Puget Sound Clean Air Agency (PSCAA) air permit conditions during the reporting period. At the time of this report we are at approximately 50% of our allowable runtime as specified in the approved PSCAA air permit.

Treatment Region Temperatures

Treatment region temperatures are monitored at twelve temperature monitoring points (TMPs) containing thermocouples arrayed vertically. The average subsurface temperature for the site prior to the initial start of power application was 16.4 degrees Celsius (°C). The average subsurface temperature at the end of this reporting period was 96.3ºC, an increase of 79.9ºC since the start of operations and a reduction of 1.0ºC over this reporting period. The highest observed subsurface temperature for this reporting period was 109.7ºC, at a depth of 28 feet below grade surface (ft bgs) at TMP E9 on June 29, 2013. For the purpose of adequately illustrating the temperature change, the data was segregated into twelve separate graphs based on the TMP location. Temperatures relative to depth for each TMP are presented in **Figures 2a** through **2l.** Average subsurface temperature over time is presented in **Figure 3**.

Power and Energy

The PCU averaged 182 kilowatts (kW) of applied power to the treatment volume during the reporting period. This number is low and is to be expected as a result of temporarily discontinuing the power application on June 26, 2013 to allow for safe soil sampling. A total of 1,642,045 kilowatt-hours (kWh) of energy have been applied to the subsurface as of July 1, 2013. This is approximately 54% of the design energy input.

ERH Vapor Recovery and Mass Removal

The vapor stream flow rate as measured after the vapor recovery blower averaged 709 standard cubic feet per minute (scfm) throughout the operating period.

Vapor samples are collected with the other operational data and analyzed onsite using a photo ionization detector (PID) as well as by laboratory analysis. This data and information is used to measure system performance (i.e. pounds of contaminant removed), air permit compliance, and are also factored into future system operations and adjustments. **Table 2** presents the cumulative recovery rate and estimated removed volatile organic compound (VOC) mass based on influent analytical data collected through June 4, 2013. **Figure 4** presents a graph of the cumulative VOC mass removed over time for both analytical data as well as PID field screening. As of June 4, 2013 the estimated total mass recovered is 908 pounds of VOCs.

Planned Activities

TRS personnel will visit the site the week of July 1, 2013 to continue full time operations of the ERH system. While the ERH system will remain shut down for the soil sampling effort, the vapor recovery system will continue to operate.

Should you have any questions concerning this report, or if you would like any additional information, please contact either me or Lynette Stauch by phone at (720) 940-4885 and (505) 281-9553, respectively.

Sincerely,

TRS Group, Inc.

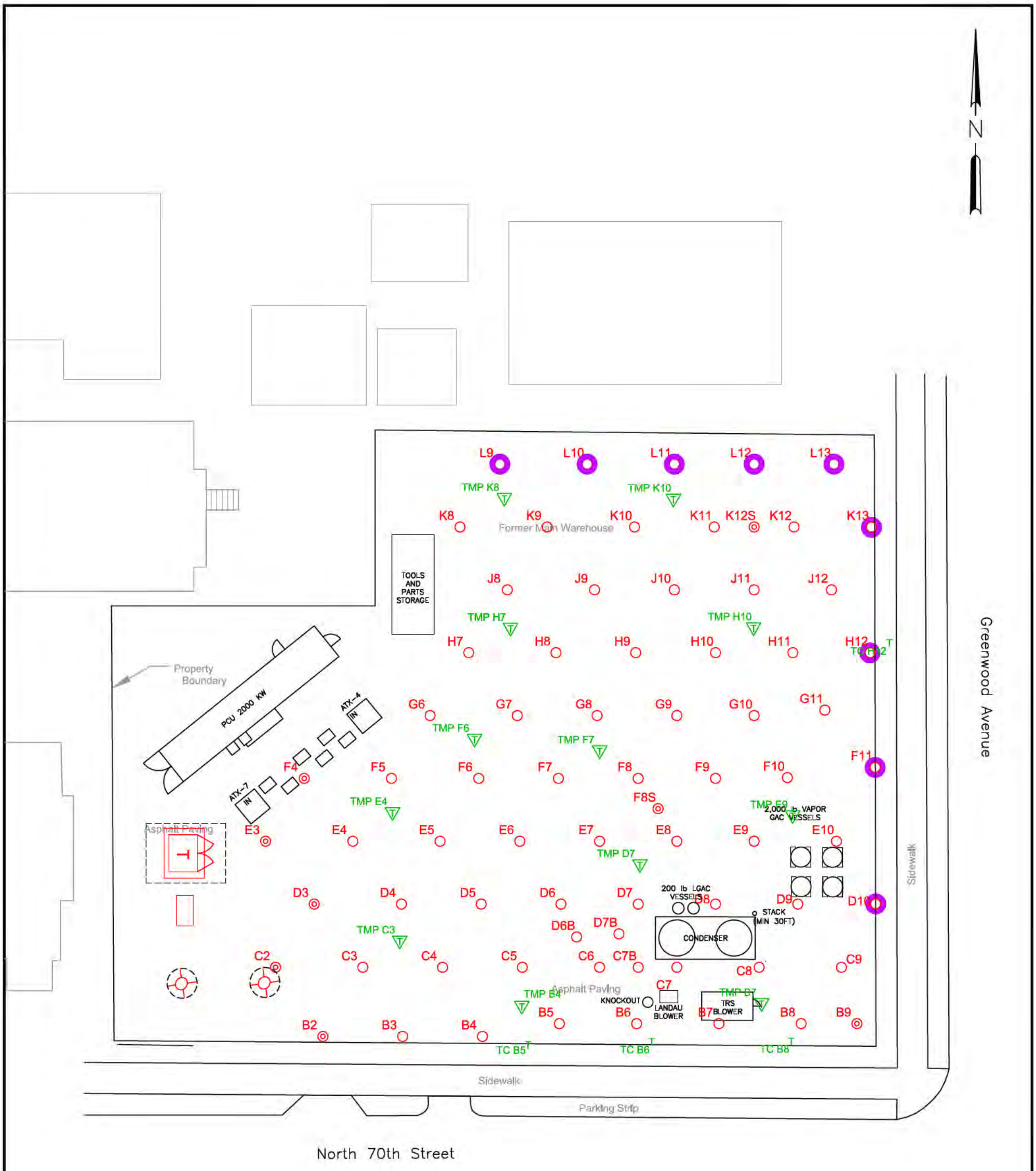
Jeff Brink

Project Manager

Attachments: Figure 1 – Site Plan
Table 2 – Mass Removed
Figure 2a – TMP B4 Temperature vs. Depth
Figure 2b – TMP B7 Temperature vs. Depth
Figure 2c – TMP C3 Temperature vs. Depth
Figure 2d – TMP D7 Temperature vs. Depth
Figure 2e – TMP E4 Temperature vs. Depth
Figure 2f – TMP E9 Temperature vs. Depth
Figure 2g – TMP F6 Temperature vs. Depth
Figure 2h – TMP F7 Temperature vs. Depth
Figure 2i – TMP H7 Temperature vs. Depth
Figure 2j – TMP H10 Temperature vs. Depth
Figure 2k – TMP K8 Temperature vs. Depth
Figure 2l – TMP K10 Temperature vs. Depth
Figure 3 – Average Subsurface Temperature vs. Time
Figure 4 – Cumulative Mass Removed

cc: Lynette Stauch, TRS
Piper Roelen, Landau
Tim Warner, TRS

ATTACHMENTS



LEGEND

- DEEP ELECTRODE (56)
- DUAL DEEP ELECTRODE (9)
- SHALLOW ELECTRODE (8)
- TEMPERATURE MONITORING POINT (12)
- T THERMOCOUPLE (4)

0' 20' 40'

TRS Accelerating Value

DESIGNED BY C. CROWNOVER	FOR HEAVEN SUPPLY, SEATTLE, WASHINGTON
DRAWN BY C. CROWNOVER	
CHECKED BY TRS	ERH SYSTEM DESIGN
PROJECT MANAGER J. BRINK	
APPROVED FOR IMPLEMENTATION BY _____ FOR _____ DATE	DATE 12/06/11 · PROJECT SEA19 · SHEET FIGURE 1

Table 2. ERH System VOC Mass Removal (based on analytical data)

Date	Mass Removed (lb)	Total Mass Removed (lb)
3-5-13	9	9
3-14-13	21	30
3-19-13	18	48
3-27-13	38	87
4-2-13	39	126
4-9-13	335	461
5-3-13	393	854
5-7-13	10	864
6-4-13	44	908

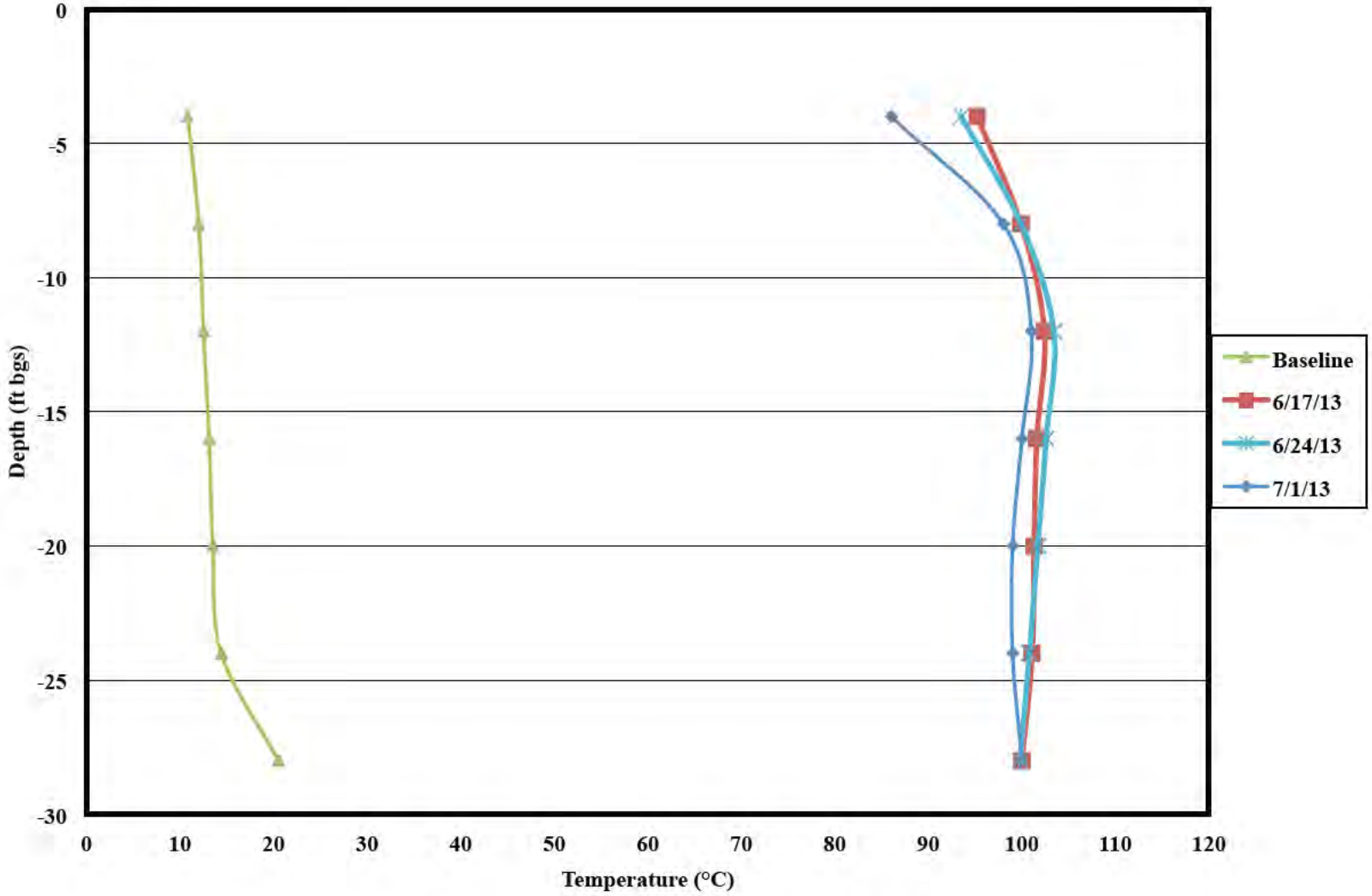


Figure 2a. TMP B4 Temperature vs. Depth

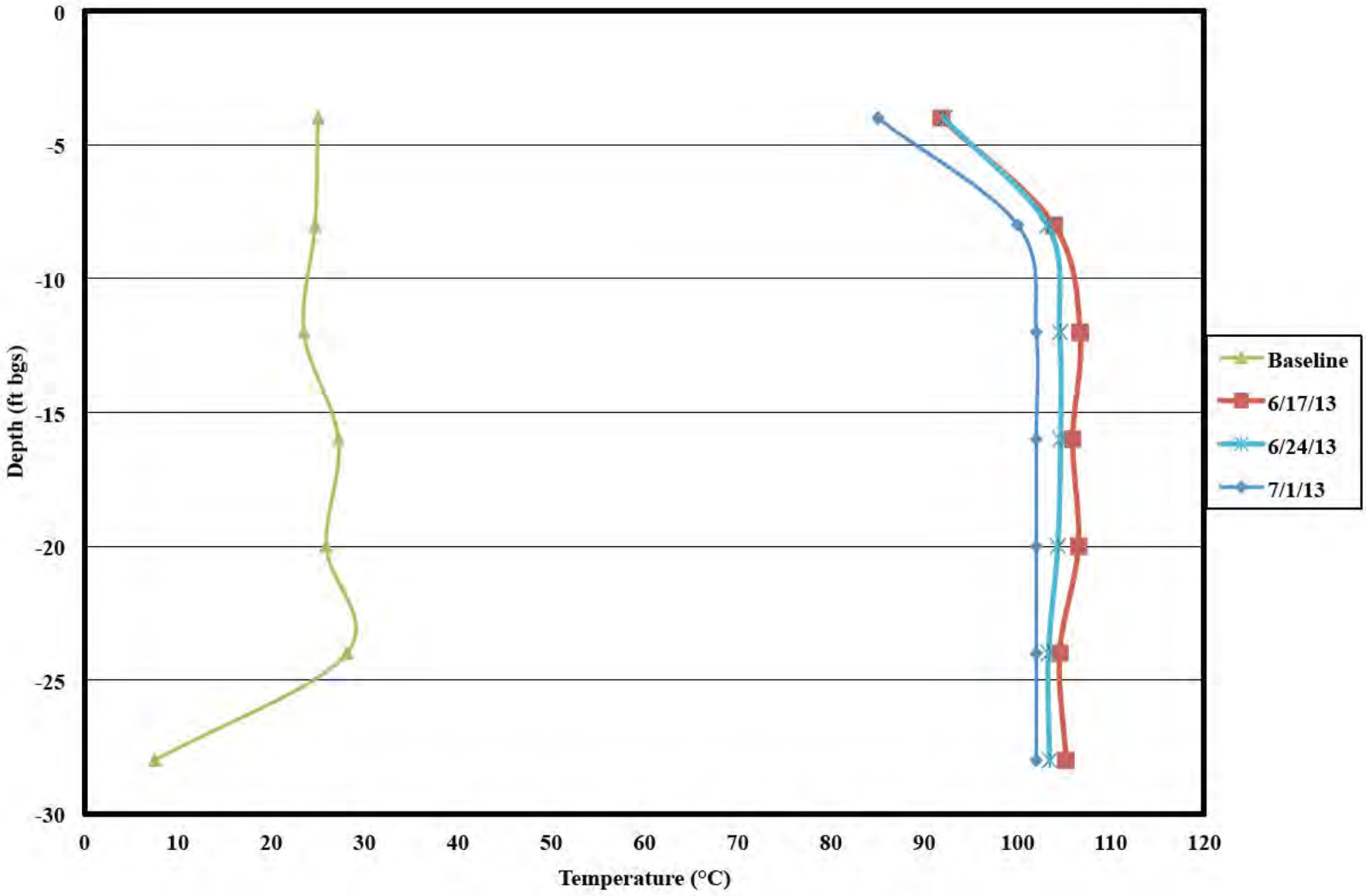


Figure 2b. TMP B7 Temperature vs. Depth

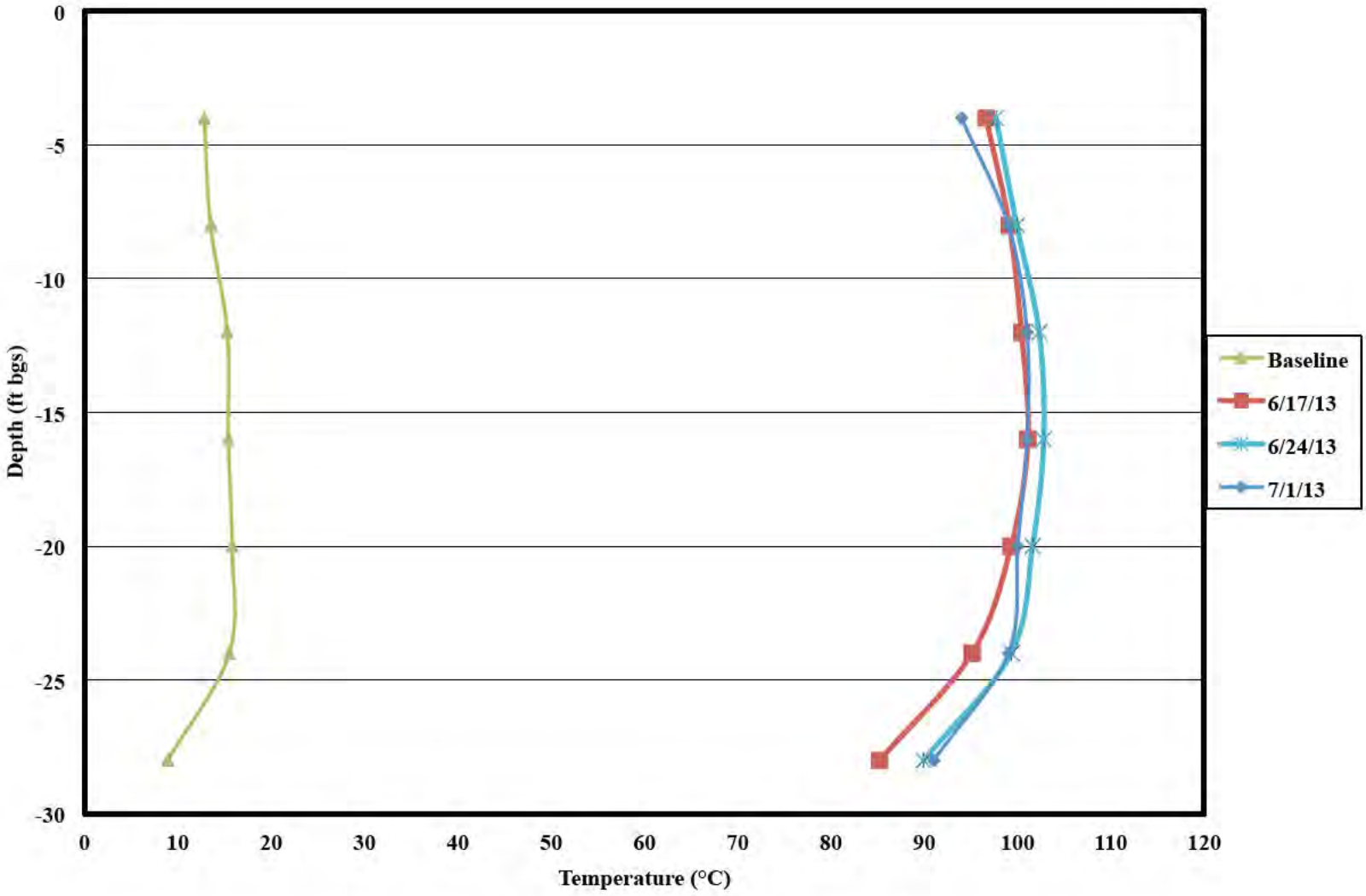


Figure 2c. TMP C3 Temperature vs. Depth

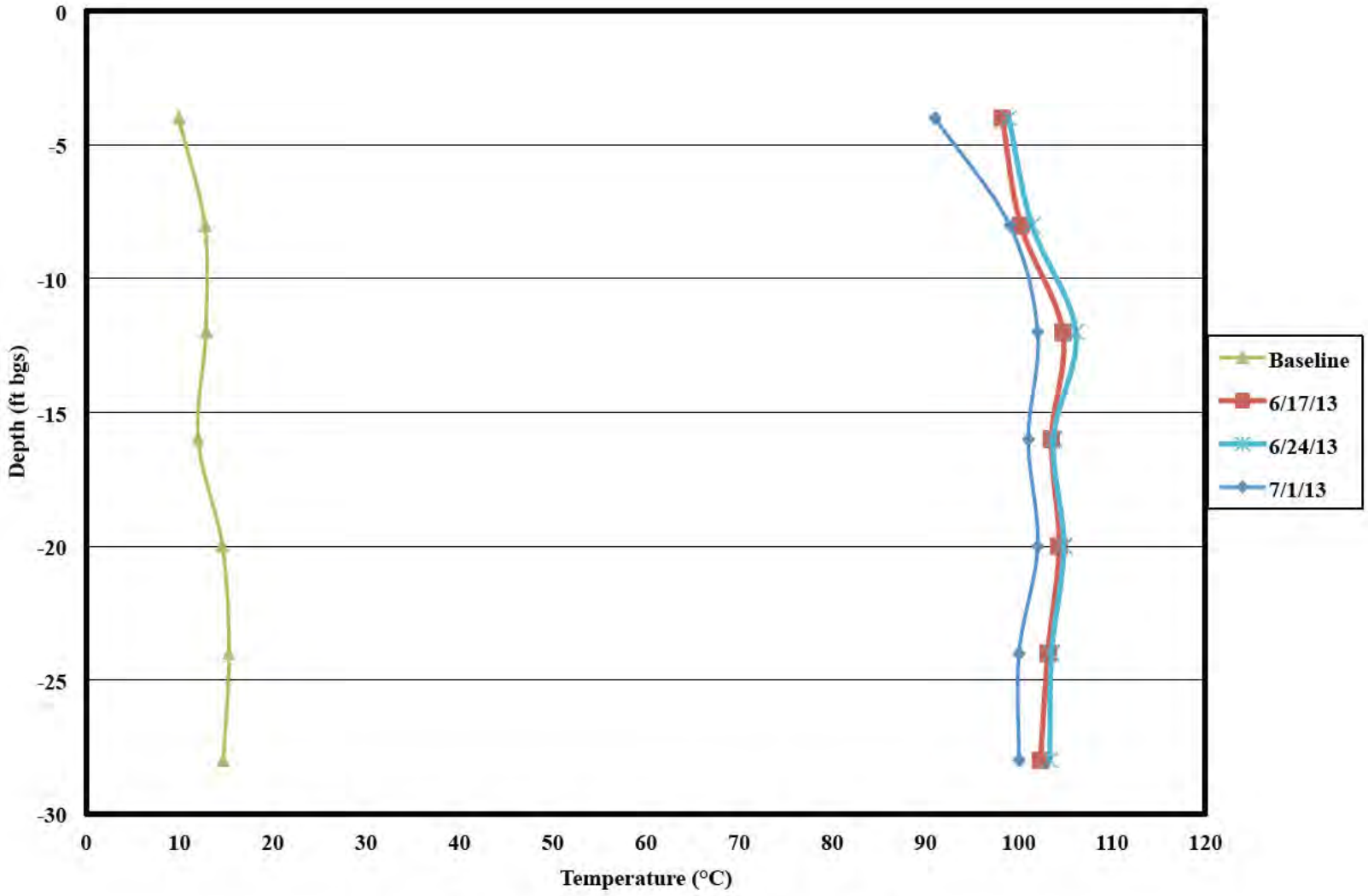


Figure 2d. TMP D7 Temperature vs. Depth

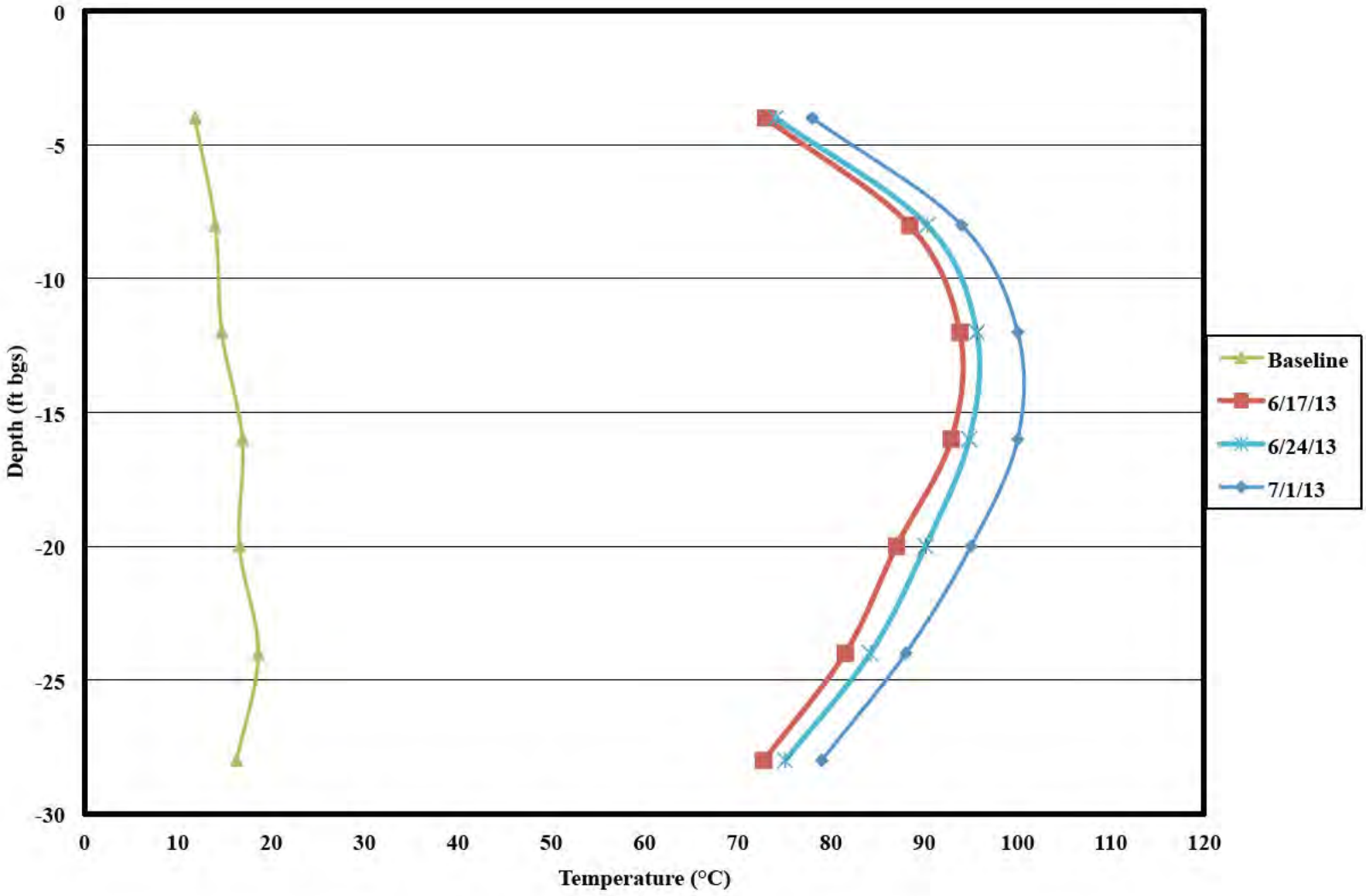


Figure 2e. TMP E4 Temperature vs. Depth

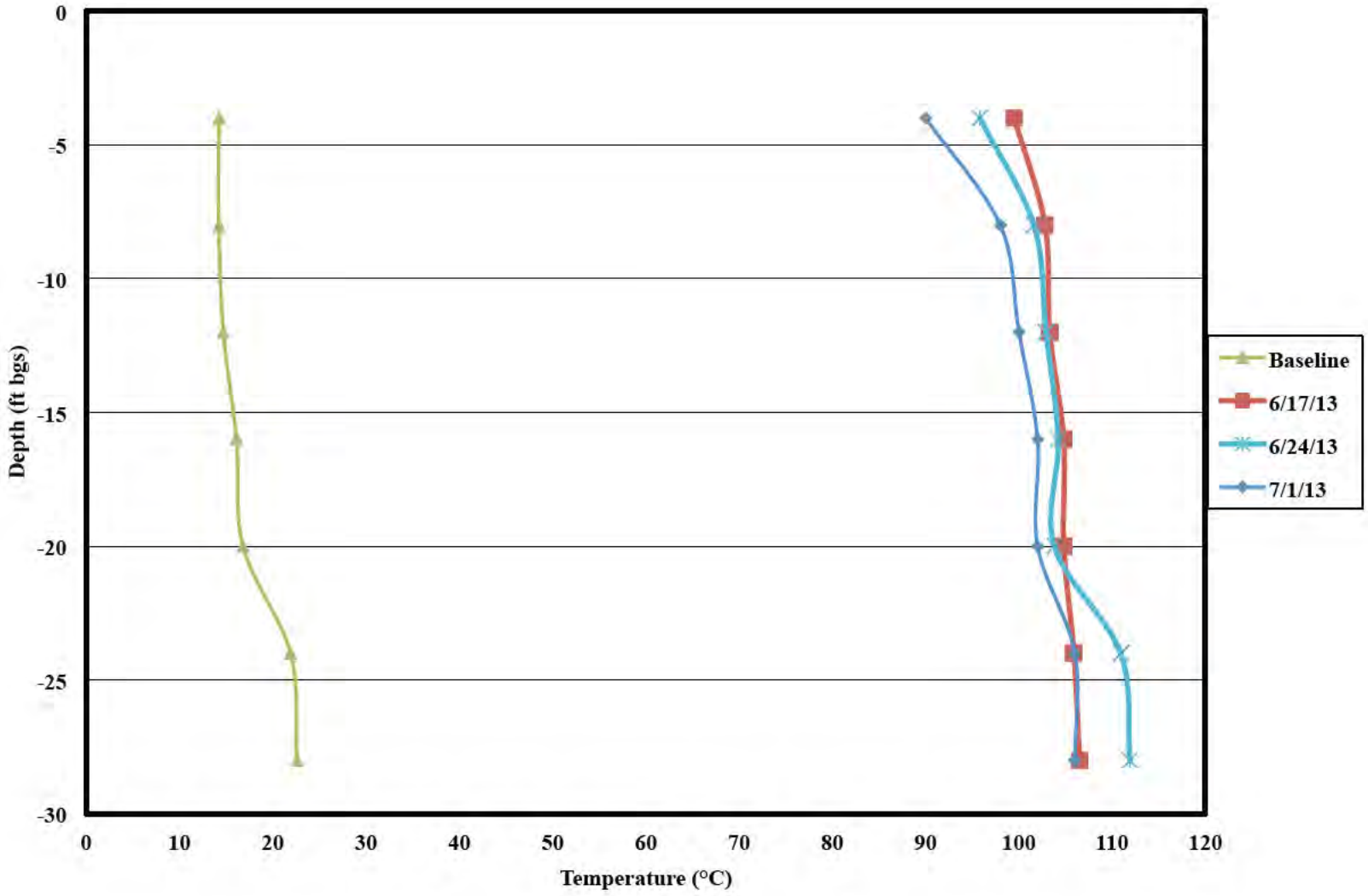


Figure 2f. TMP E9 Temperature vs. Depth

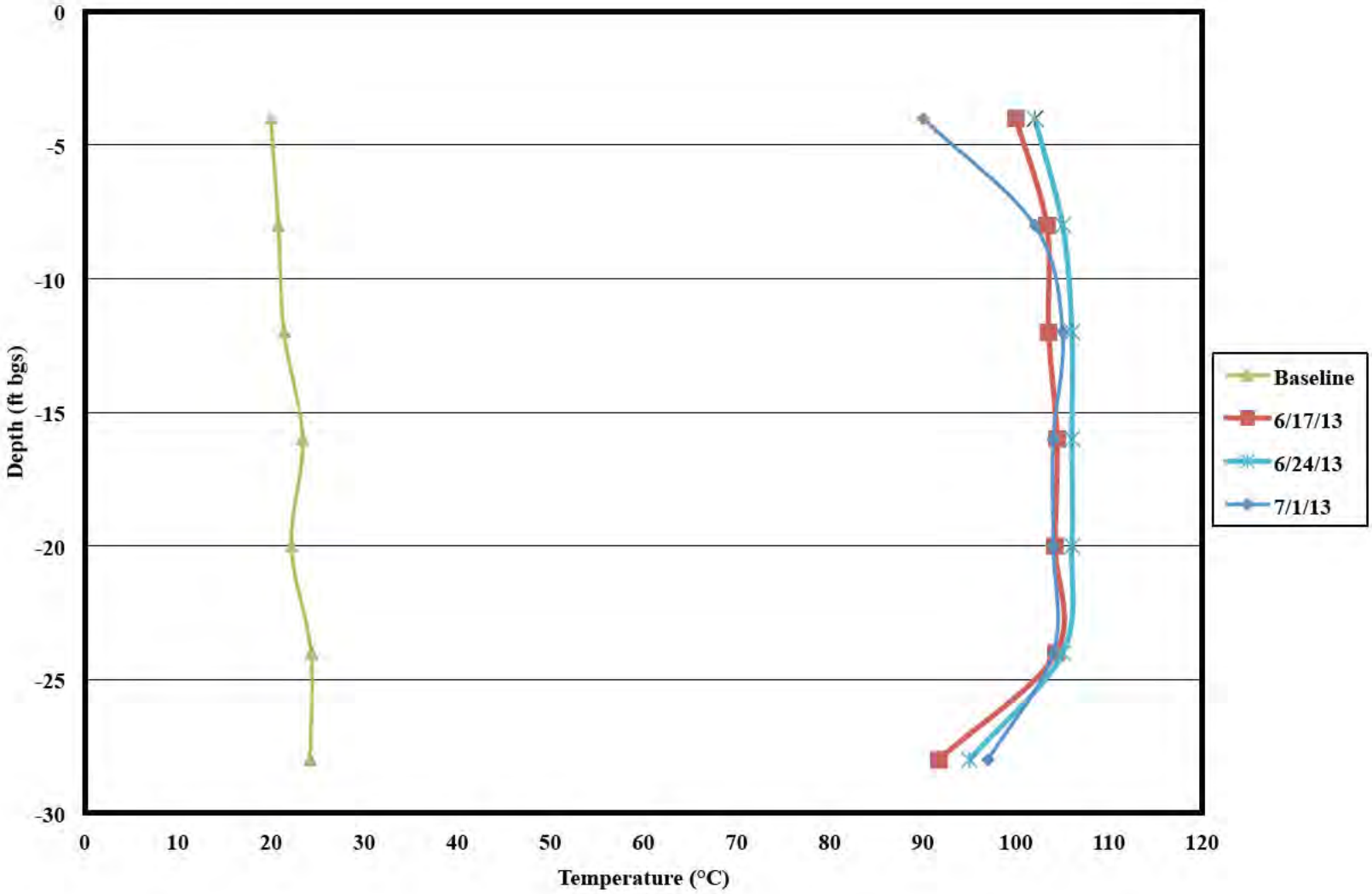


Figure 2g. TMP F6 Temperature vs. Depth

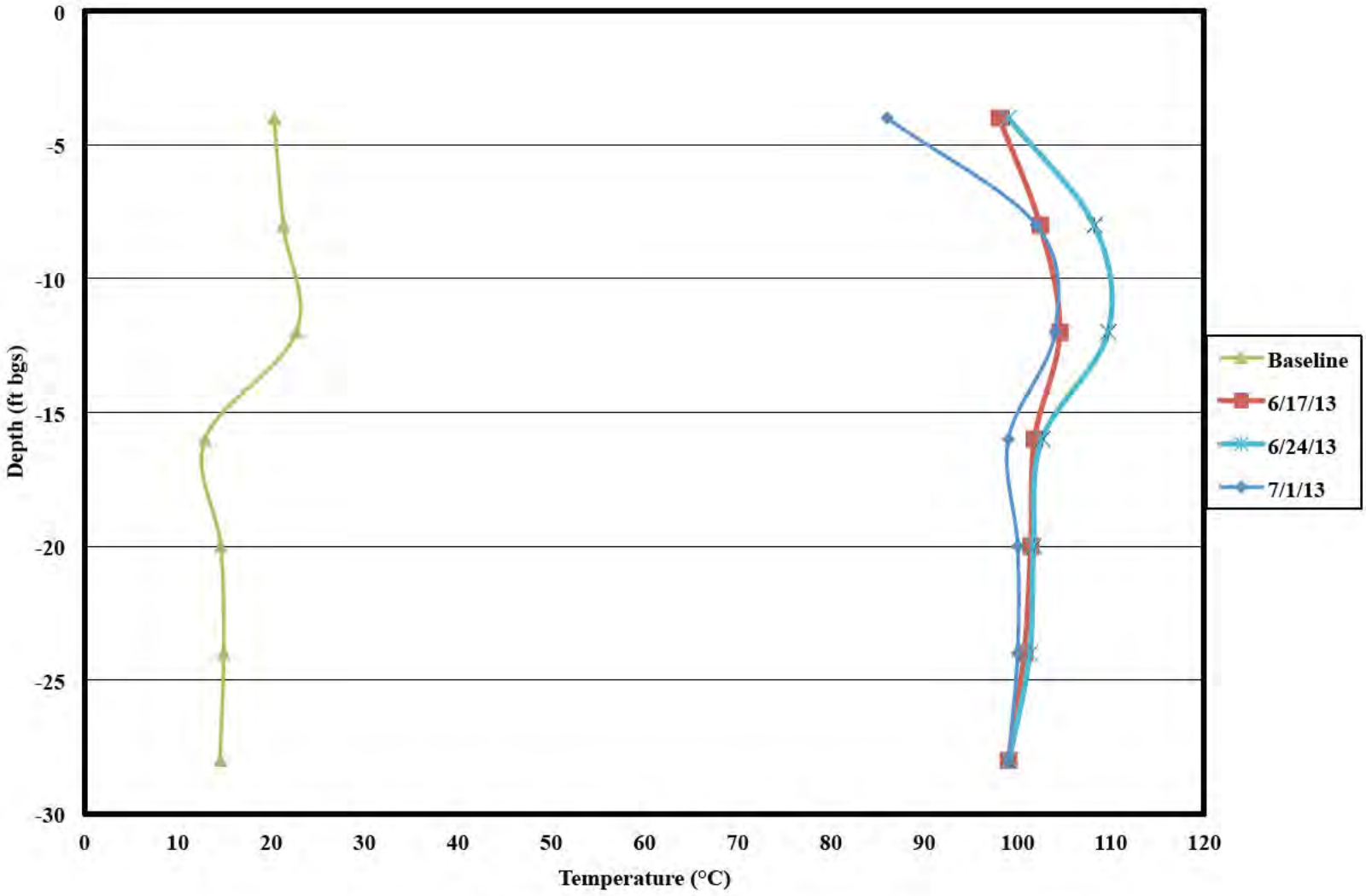


Figure 2h. TMP F7 Temperature vs. Depth

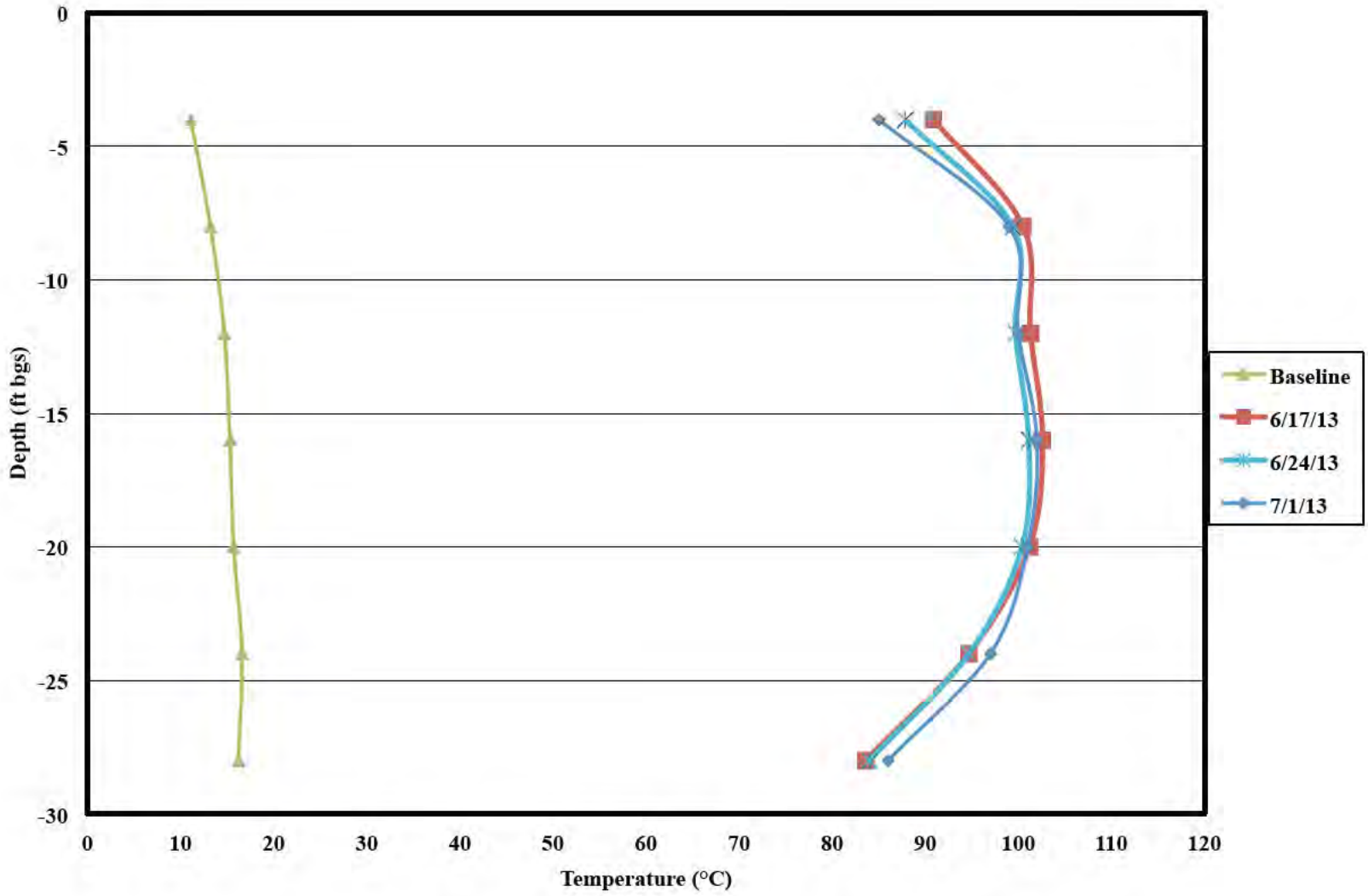


Figure 2i. TMP H7 Temperature vs. Depth

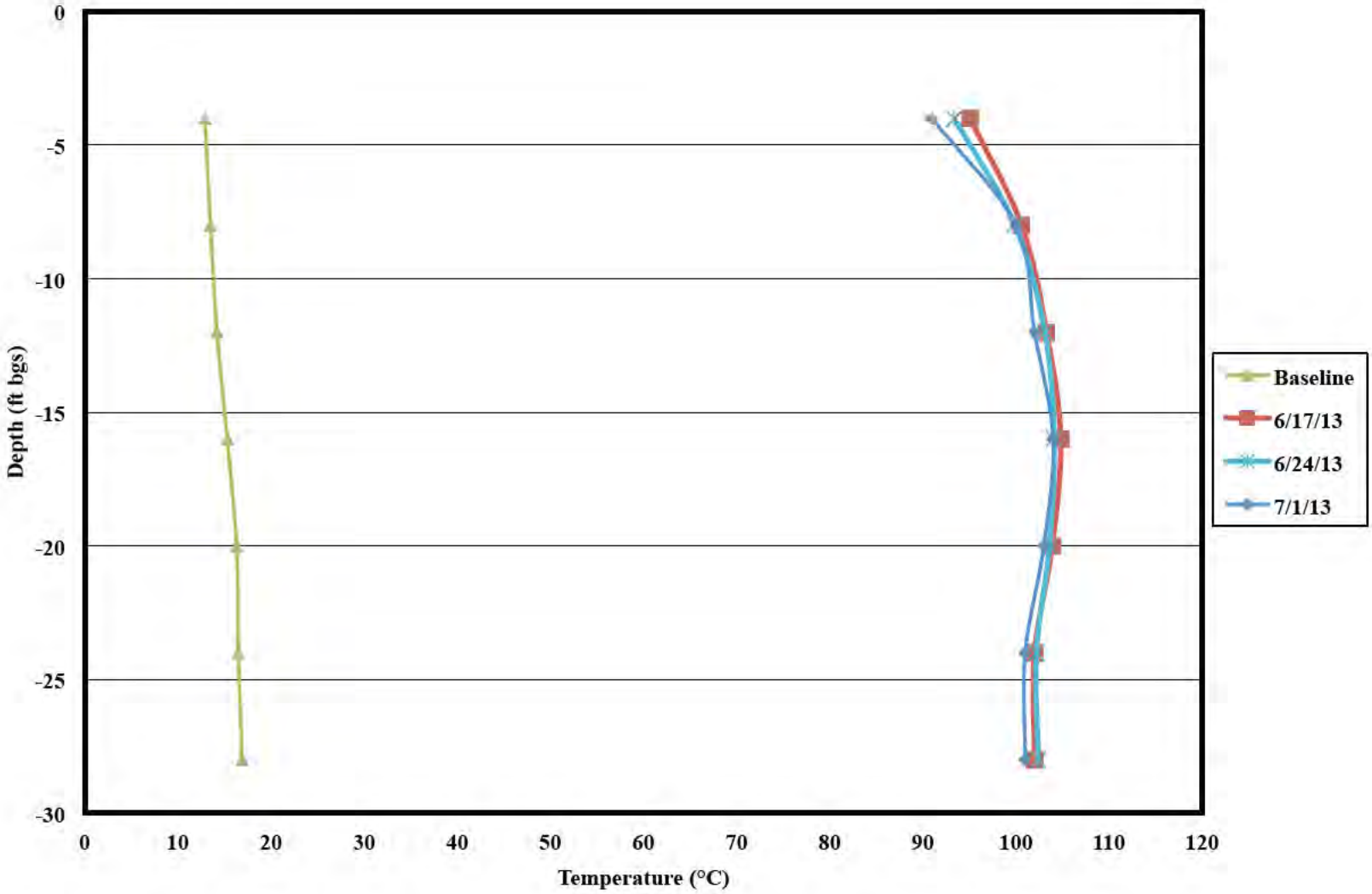


Figure 2j. TMP H10 Temperature vs. Depth

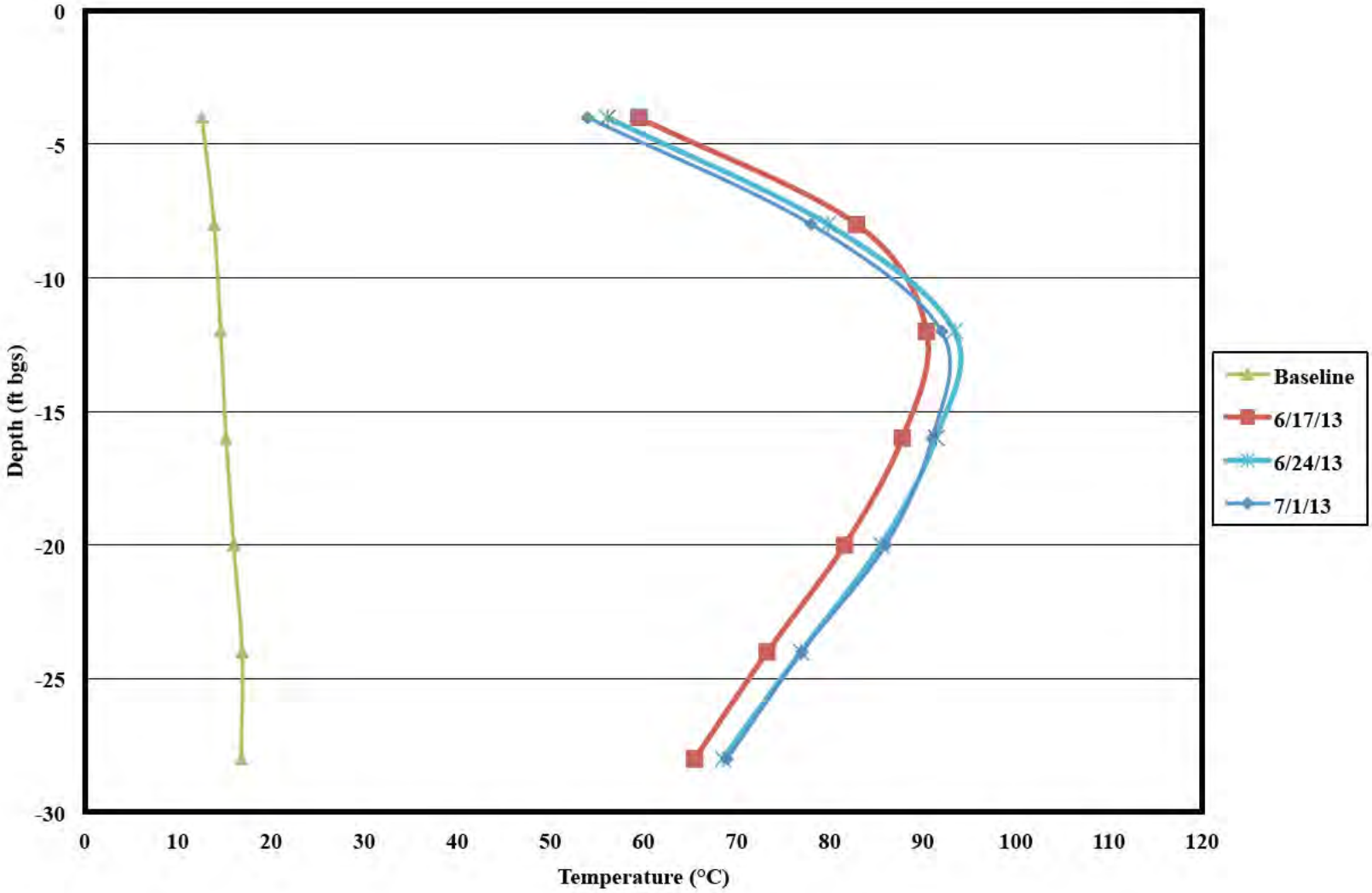


Figure 2k. TMP K8 Temperature vs. Depth

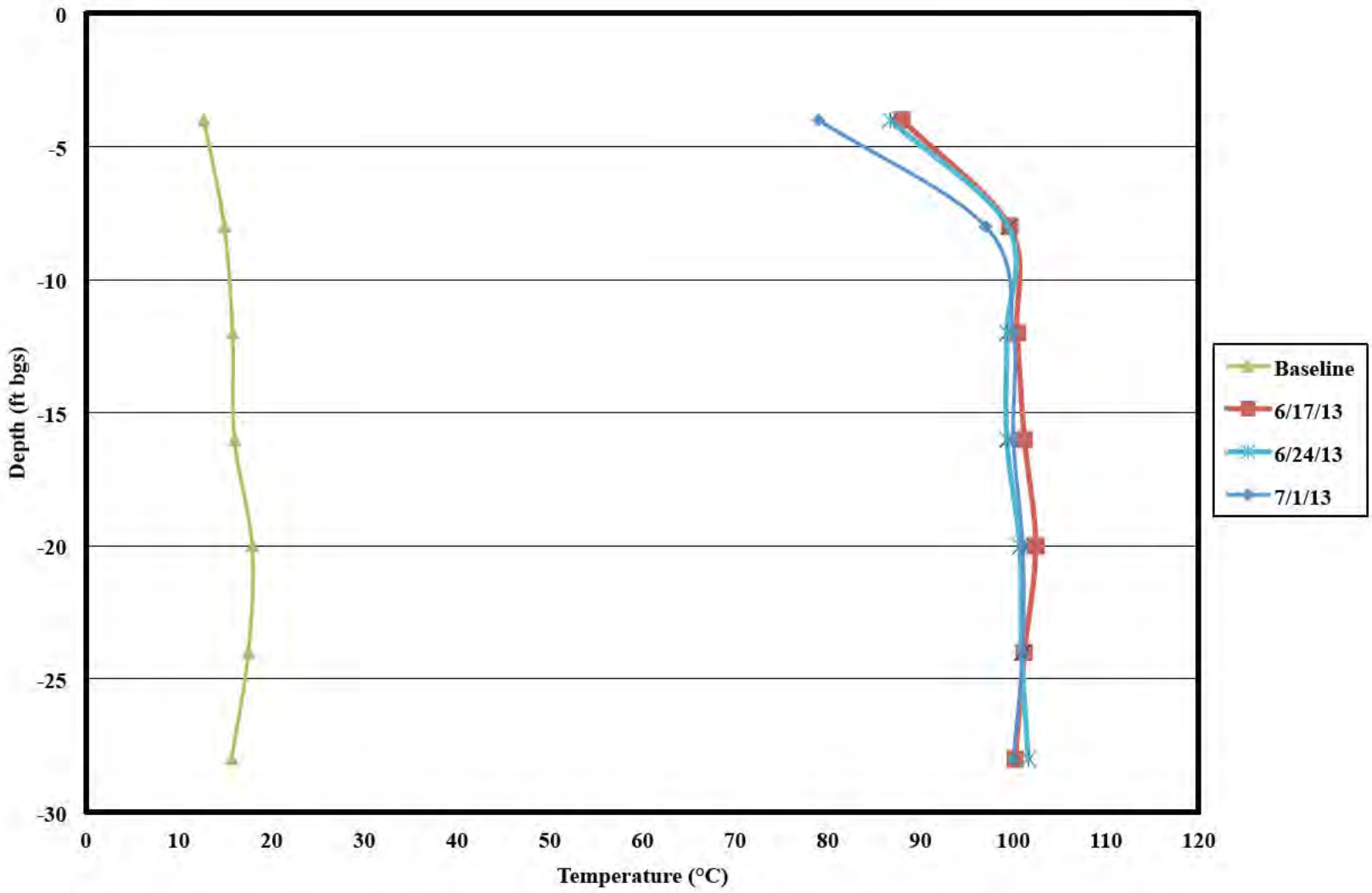


Figure 21. TMP K10 Temperature vs. Depth

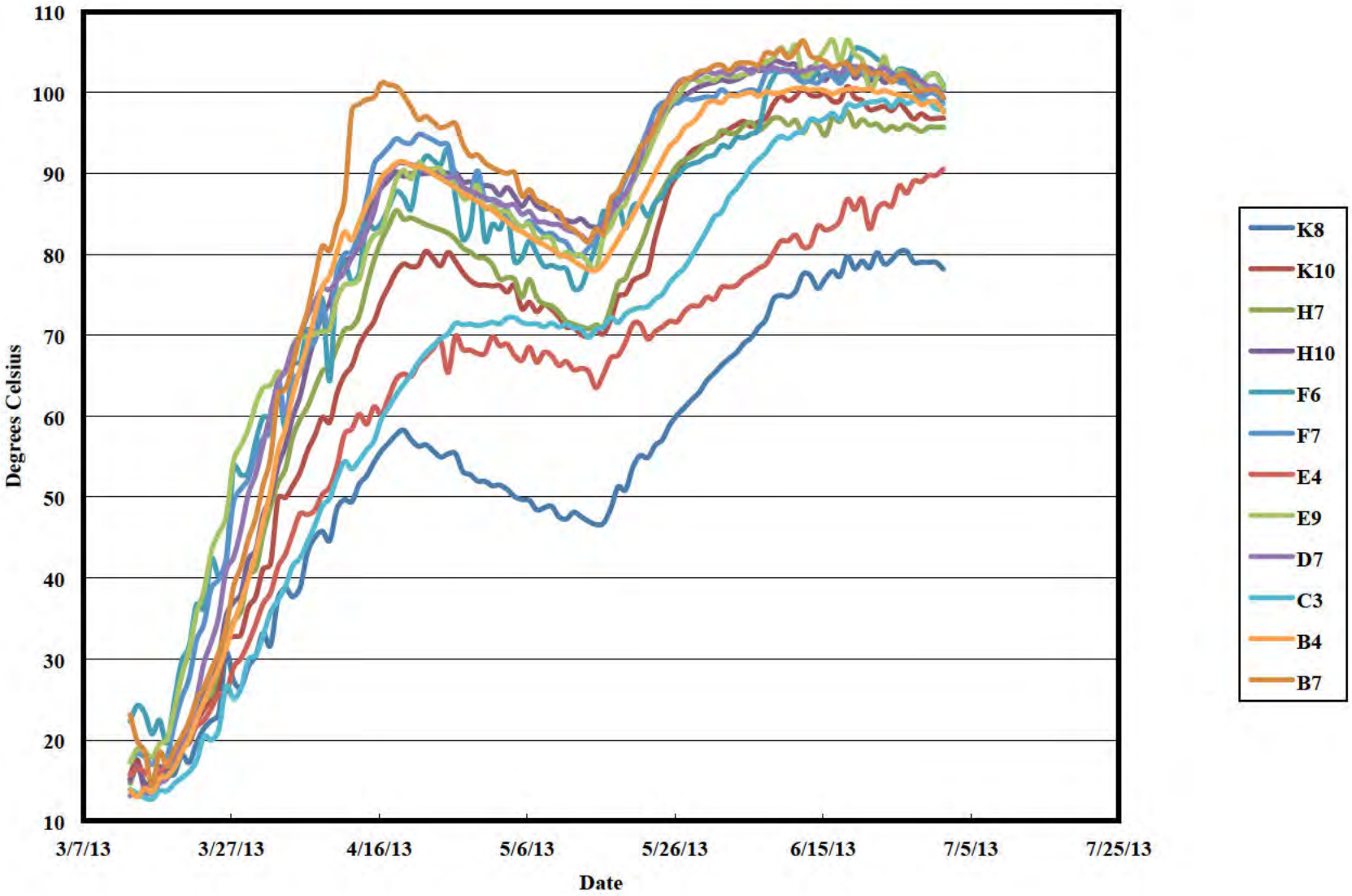


Figure 3. Average Subsurface Temperatures

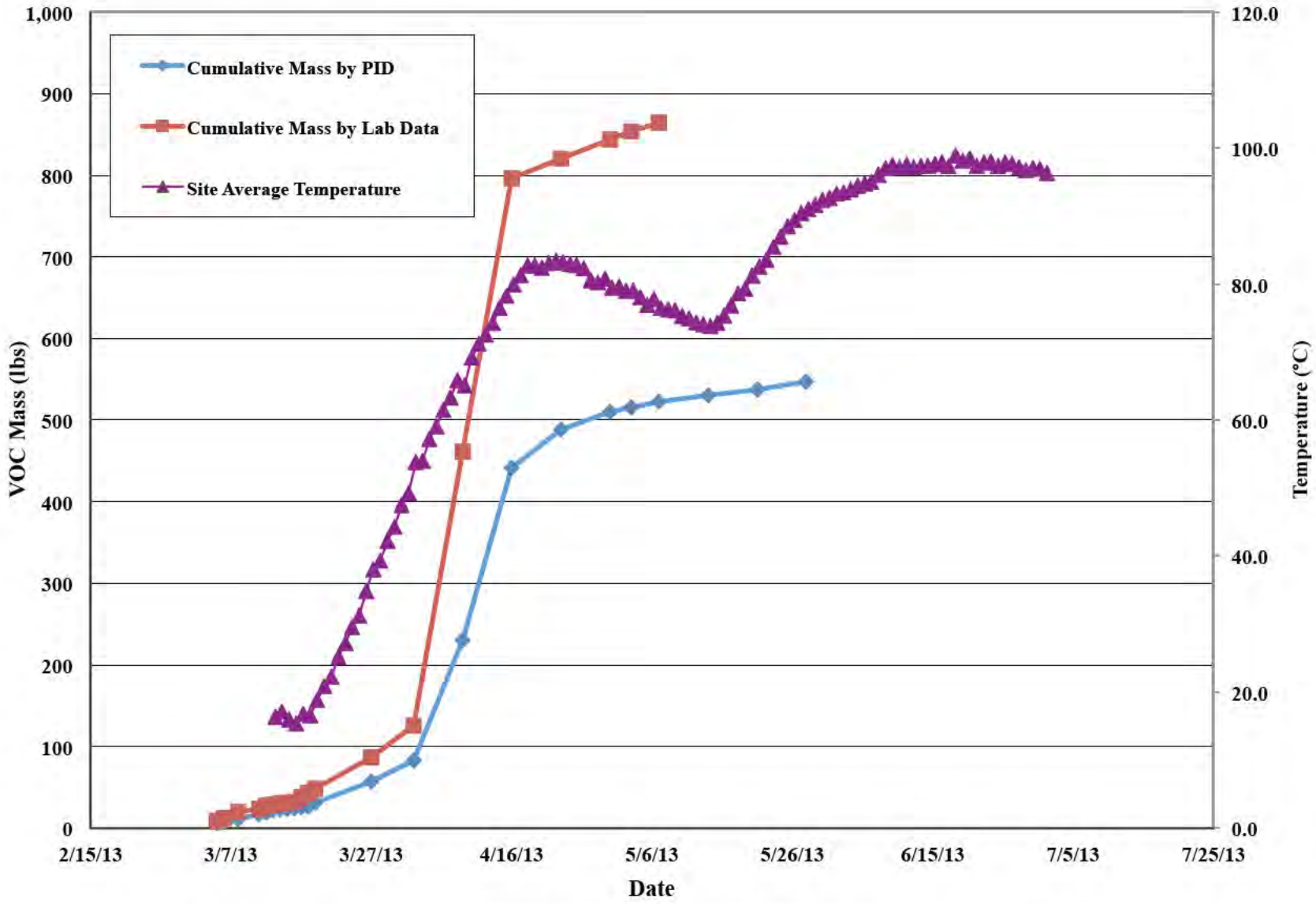


Figure 4. Cumulative Mass Removed

ATTACHMENT 2

Laboratory Analytical Reports – Indoor Air

eurofins | Air Toxics

6/7/2013

Mr. Piper Roelen
Landau Associates, Inc.
130 2nd Avenue South

Edmonds WA 98020

Project Name: Heaven Supply
Project #: 583002.050.057
Workorder #: 1306105

Dear Mr. Piper Roelen

The following report includes the data for the above referenced project for sample(s) received on 6/7/2013 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 SIM are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

Project Manager

eurofins | Air Toxics

WORK ORDER #: 1306105

Work Order Summary

CLIENT:	Mr. Piper Roelen Landau Associates, Inc. 130 2nd Avenue South Edmonds, WA 98020	**BILL TO:**	Mr. Piper Roelen Landau Associates, Inc. 130 2nd Avenue South Edmonds, WA 98020
PHONE:	800-552-5957	**P.O. #**	583002.050.057
FAX:	425-778-6409	**PROJECT #**	583002.050.057 Heaven Supply
DATE RECEIVED:	06/07/2013	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	06/07/2013		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	Privacy FOIA - Basement:060513	Modified TO-15 SIM	3.1 "Hg	5 psi
02A	Lab Blank	Modified TO-15 SIM	NA	NA
03A	CCV	Modified TO-15 SIM	NA	NA
04A	LCS	Modified TO-15 SIM	NA	NA
04AA	LCSD	Modified TO-15 SIM	NA	NA

CERTIFIED BY: Heidi Hayes DATE: 06/07/13

Technical Director

Certification numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NY NELAP - 11291,
TX NELAP - T104704434-12-4, UT NELAP CA009332012-3, WA NELAP - C935
Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2012, Expiration date: 10/17/2013.
Eurofins Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-15 SIM
Landau Associates, Inc.
Workorder# 1306105

One 6 Liter Summa Canister sample was received on June 07, 2013. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the SIM acquisition mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	***TO-15***	***ATL Modifications***
ICAL %RSD acceptance criteria	</=30% RSD with 2 compounds allowed out to < 40% RSD	Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

There were no analytical discrepancies.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM

Client Sample ID: Privacy FOIA **- Basement:060513**

Lab ID#: 1306105-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.015	0.017	0.038	0.043
Trichloroethene	0.0045	0.0055	0.024	0.029

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Client Sample ID: Privacy FOIA **- Basement:060513**

Lab ID#: 1306105-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**c060711sim**	**Date of Collection: 6/5/13 5:32:00 PM**	
Dil. Factor:	**1.49**	**Date of Analysis: 6/7/13 04:15 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.015	0.017	0.038	0.043
Trichloroethene	0.0045	0.0055	0.024	0.029
Tetrachloroethene	0.030	Not Detected	0.20	Not Detected
cis-1,2-Dichloroethene	0.030	Not Detected	0.12	Not Detected

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	114	70-130
Toluene-d8	94	70-130
4-Bromofluorobenzene	106	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1306105-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**c060707asim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/7/13 12:44 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
Trichloroethene	0.0030	Not Detected	0.016	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: CCV

Lab ID#: 1306105-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**c060703sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/7/13 09:24 AM**	

Compound	%Recovery
Vinyl Chloride	88
Trichloroethene	91
Tetrachloroethene	112
cis-1,2-Dichloroethene	105

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	98	70-130

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1306105-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**c060704sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/7/13 10:07 AM**	

Compound	%Recovery
Vinyl Chloride	97
Trichloroethene	102
Tetrachloroethene	119
cis-1,2-Dichloroethene	114

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	100	70-130

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 1306105-04AA

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**c060705sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/7/13 10:50 AM**	

Compound	%Recovery
Vinyl Chloride	93
Trichloroethene	100
Tetrachloroethene	117
cis-1,2-Dichloroethene	110

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	100	70-130

☒ Seattle/Edmonds (425) 778-0907
☐ Tacoma (253) 926-2493
☐ Spokane (509) 327-9737
☐ Portland (503) 542-1080
☐ ______

LANDAU ASSOCIATES

Date 6/5/13
Page 1 of 1

Chain-of-Custody Record

Project Name Heavn's Supply   Project No. 583002.050.057
Project Location/Event Seattle, WA
Sampler's Name Dylan Frazer / Steve Shaw
Project Contact Piper Roelen
Send Results To Piper Roelen, Anne Halvorsen, Martin Valeri

Testing Parameters: PCE/TCE/cDCE/VC (TO15SIM)

Turnaround Time
☐ Standard
☐ Accelerated
☒ same day

Sample I.D.	Date	Time	Matrix	No. of Containers	PCE/TCE/cDCE/VC (TO15SIM)
7013 Greenwood - Basement-060513	6/5/13	1732	Air	1	X

1306105

FedEx
Custody Seal Intact?
(Y) N None Temp NA

Observations/Comments

X Allow water samples to settle, collect aliquot from clear portion

X NWTPH-Dx - run acid wash/silica gel cleanup

__ run samples standardized to ______ product

__ Analyze for EPH if no specific product identified

VOC/BTEX/VPH (soil):
__ non-preserved
__ preserved w/methanol
__ preserved w/sodium bisulfate
__ Freeze upon receipt

__ Dissolved metal water samples field filtered

Other
Initial Pressure: -29 inHg
Final Pressure: -4.5 inHg

Special Shipment/Handling or Storage Requirements: FEDEX

Method of Shipment

Relinquished by	Received by	Relinquished by	Received by
Signature: [signature]	Signature: Katie Decker	Signature	Signature
Printed Name: Dylan Frazer	Printed Name: Katie Decker	Printed Name	Printed Name
Company: LAI	Company: ATL	Company	Company
Date 6/4/13 Time 1500	Date 06/07/13 Time 0755	Date Time	Date Time

WHITE COPY - Project File   YELLOW COPY - Laboratory   PINK COPY - Client Representative

Rev 8/09

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6/7/2013

Mr. Piper Roelen
Landau Associates, Inc.
130 2nd Avenue South

Edmonds WA 98020

Project Name: Heaven Supply
Project #: 583002.050.057
Workorder #: 1306106

Dear Mr. Piper Roelen

The following report includes the data for the above referenced project for sample(s) received on 6/7/2013 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 SIM are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

Project Manager

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WORK ORDER #: 1306106

Work Order Summary

CLIENT:	Mr. Piper Roelen Landau Associates, Inc. 130 2nd Avenue South Edmonds, WA 98020	**BILL TO:**	Mr. Piper Roelen Landau Associates, Inc. 130 2nd Avenue South Edmonds, WA 98020
PHONE:	800-552-5957	**P.O. #**	583002.050.057
FAX:	425-778-6409	**PROJECT #**	583002.050.057 Heaven Supply
DATE RECEIVED:	06/07/2013	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	06/07/2013		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	Privacy - Basement:060513	Modified TO-15 SIM	9.6 "Hg	4.9 psi
02A	Privacy - Basement:060513	Modified TO-15 SIM	7.3 "Hg	4.8 psi
03A	Privacy - Basement:060513	Modified TO-15 SIM	6.7 "Hg	4.9 psi
04A	Lab Blank	Modified TO-15 SIM	NA	NA
05A	CCV	Modified TO-15 SIM	NA	NA
06A	LCS	Modified TO-15 SIM	NA	NA
06AA	LCSD	Modified TO-15 SIM	NA	NA

CERTIFIED BY: Heidi Hayes DATE: 06/07/13

Technical Director

Certification numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NY NELAP - 11291,
TX NELAP - T104704434-12-4, UT NELAP CA009332012-3, WA NELAP - C935
Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2012, Expiration date: 10/17/2013.
Eurofins Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-15 SIM
Landau Associates, Inc.
Workorder# 1306106

Three 6 Liter Summa Canister (SIM Certified) samples were received on June 07, 2013. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the SIM acquisition mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	***TO-15***	***ATL Modifications***
ICAL %RSD acceptance criteria	</=30% RSD with 2 compounds allowed out to < 40% RSD	Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

There were no analytical discrepancies.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM

Client Sample ID: Privacy **- Basement:060513**

Lab ID#: 1306106-01A

No Detections Were Found.

Client Sample ID: Privacy **- Basement:060513**

Lab ID#: 1306106-02A

No Detections Were Found.

Client Sample ID: Privacy **- Basement:060513**

Lab ID#: 1306106-03A

No Detections Were Found.

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Client Sample ID: Privacy **- Basement:060513**

Lab ID#: 1306106-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**c060708sim**	**Date of Collection:**	**6/5/13 7:27:00 AM**
Dil. Factor:	**1.96**	**Date of Analysis:**	**6/7/13 01:38 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.020	Not Detected	0.050	Not Detected
Trichloroethene	0.0059	Not Detected	0.032	Not Detected
Tetrachloroethene	0.039	Not Detected	0.26	Not Detected
cis-1,2-Dichloroethene	0.039	Not Detected	0.16	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	113	70-130
Toluene-d8	94	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: [redacted] **- Basement:060513**

Lab ID#: 1306106-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**c060709sim**	**Date of Collection:**	**6/5/13 7:36:00 AM**
Dil. Factor:	**1.76**	**Date of Analysis:**	**6/7/13 02:26 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.045	Not Detected
Trichloroethene	0.0053	Not Detected	0.028	Not Detected
Tetrachloroethene	0.035	Not Detected	0.24	Not Detected
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	114	70-130
Toluene-d8	94	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: [redacted] **- Basement:060513**

Lab ID#: 1306106-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**c060710sim**	**Date of Collection:**	**6/5/13 9:04:00 AM**
Dil. Factor:	**1.72**	**Date of Analysis:**	**6/7/13 03:13 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
Trichloroethene	0.0052	Not Detected	0.028	Not Detected
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.14	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	113	70-130
Toluene-d8	93	70-130
4-Bromofluorobenzene	106	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1306106-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**c060707asim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/7/13 12:44 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
Trichloroethene	0.0030	Not Detected	0.016	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: CCV

Lab ID#: 1306106-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**c060703sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/7/13 09:24 AM**	

Compound	%Recovery
Vinyl Chloride	88
Trichloroethene	91
Tetrachloroethene	112
cis-1,2-Dichloroethene	105

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: LCS

Lab ID#: 1306106-06A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**c060704sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/7/13 10:07 AM**	

Compound	%Recovery
Vinyl Chloride	97
Trichloroethene	102
Tetrachloroethene	119
cis-1,2-Dichloroethene	114

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: LCSD

Lab ID#: 1306106-06AA

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**c060705sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/7/13 10:50 AM**	

Compound	%Recovery
Vinyl Chloride	93
Trichloroethene	100
Tetrachloroethene	117
cis-1,2-Dichloroethene	110

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	100	70-130

Air Toxics LTD.

CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Project Manager Dave Rosler

Collected by: (Print and Sign) Dawn Brandt & Steve Shaw

Company Landau Associates Email

Address 130 2nd Ave South City Edmonds State WA Zip 98020

Phone (425) 778-0907 Fax

Project Info:
P.O. # 583.002.050.057
Project # 583002.050.057
Project Name Navmar Supply

Turn Around Time:
☐ Normal
☑ Rush
Same Day
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
	7010 Palatine - Basement : 060513	33900	6-5-13	727	PCE/TCE/cDCE/VC TO-15 SIM	-30	-10.6		
	7014 Palatine - Basement : 060513	33503	↓	736	↓	-30	-7.7		
	202 North - Basement : 060513	31140	↓	904	↓	-30	-8.6		
			↓		↓				
		3 in							

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
[signature]	6-6-13 1356	[signature]	06/07/13 0755
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time

Notes: 7014 Palatine - Basement : 060513 > only 23 hours instead of full 24 hour.

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	FedEx		NA	good	Yes No None	1306106

Form 1293 rev.11

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6/14/2013

Mr. Piper Roelen

Landau Associates, Inc.

130 2nd Avenue South

Edmonds WA 98020

Project Name: Heaven Supply

Project #: 583002.050.057

Workorder #: 1306204

Dear Mr. Piper Roelen

The following report includes the data for the above referenced project for sample(s) received on 6/13/2013 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 SIM are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

Project Manager

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WORK ORDER #: 1306204

Work Order Summary

CLIENT:	Mr. Piper Roelen Landau Associates, Inc. 130 2nd Avenue South Edmonds, WA 98020	**BILL TO:**	Mr. Piper Roelen Landau Associates, Inc. 130 2nd Avenue South Edmonds, WA 98020
PHONE:	800-552-5957	**P.O. #**	583002.050.057
FAX:	425-778-6409	**PROJECT #**	583002.050.057 Heaven Supply
DATE RECEIVED:	06/13/2013	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	06/14/2013		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	Privacy - Basement:061213	Modified TO-15 SIM	5.4 "Hg	5 psi
02A	Heavens Supply - OD:061213	Modified TO-15 SIM	5.4 "Hg	5 psi
03A	Privacy - Basement:061213	Modified TO-15 SIM	7.6 "Hg	5 psi
04A	Lab Blank	Modified TO-15 SIM	NA	NA
05A	CCV	Modified TO-15 SIM	NA	NA
06A	LCS	Modified TO-15 SIM	NA	NA
06AA	LCSD	Modified TO-15 SIM	NA	NA

CERTIFIED BY: Heidi Hayes DATE: 06/14/13

Technical Director

Certification numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NY NELAP - 11291,
TX NELAP - T104704434-12-4, UT NELAP CA009332012-3, WA NELAP - C935
Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2012, Expiration date: 10/17/2013.
Eurofins Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 956
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-15 SIM
Landau Associates, Inc.
Workorder# 1306204

Three 6 Liter Summa Canister (SIM Certified) samples were received on June 13, 2013. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the SIM acquisition mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	***TO-15***	***ATL Modifications***
ICAL %RSD acceptance criteria	</=30% RSD with 2 compounds allowed out to < 40% RSD	Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

The Summa canister for sample Privacy FOIA (b) (6) - Basement:061213 was leaking upon arrival. The client was notified and the analysis proceeded. Reported analyte concentrations are considered to be estimated.

Analytical Notes

There were no analytical discrepancies.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction no performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV
N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM

Client Sample ID: [redacted] **- Basement:061213**

Lab ID#: 1306204-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.0049	0.0071	0.026	0.038

Client Sample ID: Heavens Supply - OD:061213

Lab ID#: 1306204-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.0049	0.0073	0.026	0.039

Client Sample ID: 202 N 70th - Basement:061213

Lab ID#: 1306204-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.0054	0.0074	0.029	0.040

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Client Sample ID: [redacted] **- Basement:061213**

Lab ID#: 1306204-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**a061307sim**	**Date of Collection:**	**6/12/13 7:25:00 AM**
Dil. Factor:	**1.63**	**Date of Analysis:**	**6/13/13 12:23 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.042	Not Detected
Trichloroethene	0.0049	0.0071	0.026	0.038
Tetrachloroethene	0.033	Not Detected	0.22	Not Detected
cis-1,2-Dichloroethene	0.033	Not Detected	0.13	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: Heavens Supply - OD:061213

Lab ID#: 1306204-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**a061308sim**	**Date of Collection: 6/12/13 8:53:00 AM**	
Dil. Factor:	**1.63**	**Date of Analysis: 6/13/13 01:13 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.042	Not Detected
Trichloroethene	0.0049	0.0073	0.026	0.039
Tetrachloroethene	0.033	Not Detected	0.22	Not Detected
cis-1,2-Dichloroethene	0.033	Not Detected	0.13	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	111	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	95	70-130

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Client Sample ID: [redacted] **- Basement:061213**

Lab ID#: 1306204-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**a061309sim**	**Date of Collection: 6/12/13 9:03:00 AM**	
Dil. Factor:	**1.79**	**Date of Analysis: 6/13/13 02:03 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.046	Not Detected
Trichloroethene	0.0054	0.0074	0.029	0.040
Tetrachloroethene	0.036	Not Detected	0.24	Not Detected
cis-1,2-Dichloroethene	0.036	Not Detected	0.14	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	95	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1306204-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**a061306asim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/13/13 10:45 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
Trichloroethene	0.0030	Not Detected	0.016	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: CCV

Lab ID#: 1306204-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**a061302sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/13/13 06:59 AM**	

Compound	%Recovery
Vinyl Chloride	112
Trichloroethene	105
Tetrachloroethene	111
cis-1,2-Dichloroethene	108

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: LCS

Lab ID#: 1306204-06A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**a061303sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/13/13 07:54 AM**	

Compound	**%Recovery**
Vinyl Chloride	98
Trichloroethene	94
Tetrachloroethene	96
cis-1,2-Dichloroethene	96

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: LCSD

Lab ID#: 1306204-06AA

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**a061304sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/13/13 08:41 AM**	

Compound	%Recovery
Vinyl Chloride	97
Trichloroethene	92
Tetrachloroethene	95
cis-1,2-Dichloroethene	96

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	99	70-130

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CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice

[illegible]

[illegible] Folsom, CA [illegible]

Page [illegible] of [illegible]

Project Manager: [illegible]

Collected by: [illegible]

Company: [illegible] Email: [illegible]

Address: [illegible] City: [illegible] State: CA Zip: [illegible]

Phone: [illegible]

Project Info:

P.O. # [illegible]

Project # [illegible]

Project Name: [illegible]

Turn Around Time: [illegible]

Pressurization: [illegible]

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		

Relinquished by: (signature) Date/Time [illegible] 12:15 [illegible] 6-12-13

Received by: (signature) Date/Time

Notes:

Relinquished by: (signature) Date/Time

Received by: (signature) Date/Time

Relinquished by: (signature) Date/Time

Received by: (signature) Date/Time

Lab Use Only: Shipper Name | Air Bill # | Temp (°C) | Condition | Custody Seals Intact? | Work Order #

Yes No None

Revised COC received 6/13/13

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CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice

Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Page 1 of 1

Project Manager [illegible]

Collected by: (Print and Sign) [illegible]

Company [illegible] Email [illegible]

Address [illegible] City [illegible] State [illegible] Zip [illegible]

Phone [illegible] Fax

Project Info:

P.O. # [illegible]

Project # [illegible]

Project Name [illegible]

Turn Around Time: ☐ Normal ☒ Rush [illegible]

Lab Use Only: Pressurized by: Date: Pressurization Gas: N2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-4		
02A	[illegible]	[illegible]	↓	[illegible]	↓	[illegible]	[illegible]		
03A	[illegible]	[illegible]	↓	1102	↓	-30	-10		

Relinquished by: (signature) Date/Time [illegible] [illegible]

Received by: (signature) Date/Time [illegible] 06/10/15 09:45

Relinquished by: (signature) Date/Time

Received by: (signature) Date/Time

Relinquished by: (signature) Date/Time

Received by: (signature) Date/Time

Notes:

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	FedEx		NA	Good	(Yes) No None	1506254

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6/26/2013

Mr. Piper Roelen
Landau Associates, Inc.
130 2nd Avenue South

Edmonds WA 98020

Project Name: Heavens Supply
Project #: 583002.050.057
Workorder #: 1306364

Dear Mr. Piper Roelen

The following report includes the data for the above referenced project for sample(s) received on 6/21/2013 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 SIM are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

Project Manager

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WORK ORDER #: 1306364

Work Order Summary

CLIENT:	Mr. Piper Roelen Landau Associates, Inc. 130 2nd Avenue South Edmonds, WA 98020	**BILL TO:**	Mr. Piper Roelen Landau Associates, Inc. 130 2nd Avenue South Edmonds, WA 98020
PHONE:	800-552-5957	**P.O. #**	583002.050.057
FAX:	425-778-6409	**PROJECT #**	583002.050.057 Heavens Supply
DATE RECEIVED:	06/21/2013	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	06/26/2013		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	Privacy -Basement:061913	Modified TO-15 SIM	6.5 "Hg	4.8 psi
02A	Privacy -Basement:061913	Modified TO-15 SIM	7.1 "Hg	4.6 psi
03A	Privacy FOIA -Basement:061913	Modified TO-15 SIM	4.9 "Hg	5.1 psi
04A	Lab Blank	Modified TO-15 SIM	NA	NA
05A	CCV	Modified TO-15 SIM	NA	NA
06A	LCS	Modified TO-15 SIM	NA	NA
06AA	LCSD	Modified TO-15 SIM	NA	NA

CERTIFIED BY: Heidi Mayo DATE: 06/26/13

Technical Director

Certification numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NY NELAP - 11291,
TX NELAP - T104704434-12-4, UT NELAP CA009332012-3, WA NELAP - C935
Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2012, Expiration date: 10/17/2013.
Eurofins Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-15 SIM
Landau Associates, Inc.
Workorder# 1306364

Three 6 Liter Summa Canister (SIM Certified) samples were received on June 21, 2013. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the SIM acquisition mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	***TO-15***	***ATL Modifications***
ICAL %RSD acceptance criteria	</=30% RSD with 2 compounds allowed out to < 40% RSD	Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

There were no analytical discrepancies.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM

Client Sample ID: Privacy **-Basement:061913**

Lab ID#: 1306364-01A

No Detections Were Found.

Client Sample ID: Privacy **-Basement:061913**

Lab ID#: 1306364-02A

No Detections Were Found.

Client Sample ID: Privacy FOIA **-Basement:061913**

Lab ID#: 1306364-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.0048	0.010	0.026	0.055
Tetrachloroethene	0.032	0.038	0.22	0.26

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Client Sample ID: [redacted]**-Basement:061913**

Lab ID#: 1306364-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**a062407sim**	**Date of Collection:**	**6/19/13 7:28:00 AM**
Dil. Factor:	**1.70**	**Date of Analysis:**	**6/24/13 04:20 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.043	Not Detected
Trichloroethene	0.0051	Not Detected	0.027	Not Detected
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.13	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	118	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	93	70-130

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Client Sample ID: [redacted]-Basement:061913

Lab ID#: 1306364-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**a062408sim**	**Date of Collection: 6/19/13 9:02:00 AM**	
Dil. Factor:	**1.72**	**Date of Analysis: 6/24/13 05:13 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
Trichloroethene	0.0052	Not Detected	0.028	Not Detected
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.14	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	117	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	96	70-130

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Client Sample ID: Privacy FOIA **-Basement:061913**

Lab ID#: 1306364-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**a062409sim**	**Date of Collection:**	**6/19/13 5:33:00 PM**
Dil. Factor:	**1.61**	**Date of Analysis:**	**6/24/13 06:04 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.041	Not Detected
Trichloroethene	0.0048	0.010	0.026	0.055
Tetrachloroethene	0.032	0.038	0.22	0.26
cis-1,2-Dichloroethene	0.032	Not Detected	0.13	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	120	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	95	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1306364-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**a062406asim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/24/13 02:35 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
Trichloroethene	0.0030	Not Detected	0.016	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	119	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	96	70-130

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Client Sample ID: CCV

Lab ID#: 1306364-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**a062402sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/24/13 10:14 AM**	

Compound	%Recovery
Vinyl Chloride	120
Trichloroethene	100
Tetrachloroethene	105
cis-1,2-Dichloroethene	100

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: LCS

Lab ID#: 1306364-06A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**a062403sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/24/13 11:05 AM**	

Compound	%Recovery
Vinyl Chloride	96
Trichloroethene	88
Tetrachloroethene	89
cis-1,2-Dichloroethene	91

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: LCSD

Lab ID#: 1306364-06AA

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**a062404sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/24/13 11:52 AM**	

Compound	%Recovery
Vinyl Chloride	93
Trichloroethene	87
Tetrachloroethene	88
cis-1,2-Dichloroethene	91

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	99	70-130

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CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Project Manager: Piper Roelen
Collected by: (Print and Sign) Devan Brandt & Dylan Frazer
Company: LANDAU ASSOCIATES Email:
Address: 130 2nd AVE South City: Edmonds State: WA Zip: 98020
Phone: (425) 778-0907 Fax:

Project Info:
P.O. # 583002.050.057
Project # 583002.050.057
Project Name: Heavens Supply

Turn Around Time:
☒ Normal
☐ Rush
3 Day (specify)

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	7010 Palatine - Basement: 061913	33982	6-19	728	PCE/TCE/cDCE/VC TO-15 SIM	-30	-8		
02A	202 N 70th - Basement: 061913	34739	6-19	902	PCE/TCE/cDCE/VC TO-15 SIM	-29.6	-7.7		
03A	7013 GREENWOOD - BASEMENT: 061913	25270	6/19/13	1733	PCE/TCE/cDCE/VC TO-15 SIM	-28.0	-5.5		

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
	6/20/13 / 0900	ATC	6.21.13 0945
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time

Notes:

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	FedEx		4.9	Good	Yes / No / None	1306364

Form 1293 rev.11

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7/3/2013

Mr. Piper Roelen
Landau Associates, Inc.
130 2nd Avenue South

Edmonds WA 98020

Project Name: Heaven Supply
Project #: 583002.050.057
Workorder #: 1306507

Dear Mr. Piper Roelen

The following report includes the data for the above referenced project for sample(s) received on 6/28/2013 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 SIM are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

Project Manager

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WORK ORDER #: 1306507

Work Order Summary

CLIENT:	Mr. Piper Roelen Landau Associates, Inc. 130 2nd Avenue South Edmonds, WA 98020	**BILL TO:**	Mr. Piper Roelen Landau Associates, Inc. 130 2nd Avenue South Edmonds, WA 98020
PHONE:	800-552-5957	**P.O. #**	583002.050.057
FAX:	425-778-6409	**PROJECT #**	583002.050.057 Heaven Supply
DATE RECEIVED:	06/28/2013	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	07/03/2013		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	Privacy - Basement:062613	Modified TO-15 SIM	0.5 psi	4.8 psi
02A	Privacy - Basement:062613	Modified TO-15 SIM	5.3 "Hg	5.3 psi
03A	Privacy FOIA - Basement:062613	Modified TO-15 SIM	6.7 "Hg	5 psi
04A	Lab Blank	Modified TO-15 SIM	NA	NA
05A	CCV	Modified TO-15 SIM	NA	NA
06A	LCS	Modified TO-15 SIM	NA	NA
06AA	LCSD	Modified TO-15 SIM	NA	NA

CERTIFIED BY: Heidi Hayes DATE: 07/03/13

Technical Director

Certification numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NY NELAP - 11291,
TX NELAP - T104704434-12-4, UT NELAP CA009332012-3, WA NELAP - C935
Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2012, Expiration date: 10/17/2013.
Eurofins Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-15 SIM
Landau Associates, Inc.
Workorder# 1306507

Three 6 Liter Summa Canister (SIM Certified) samples were received on June 28, 2013. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the SIM acquisition mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	***TO-15***	***ATL Modifications***
ICAL %RSD acceptance criteria	</=30% RSD with 2 compounds allowed out to < 40% RSD	Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

Despite the use of flow controller for sample collection, the final canister vacuum for sample Priva [redacted] - Basement:062613 was measured at ambient pressure in the field. These ambient pressure reading was confirmed by the laboratory upon sample receipt.

Analytical Notes

There were no analytical discrepancies.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM

Client Sample ID: [redacted] **- Basement:062613**

Lab ID#: 1306507-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.0038	0.0048	0.021	0.026

Client Sample ID: [redacted] **- Basement:062613**

Lab ID#: 1306507-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.0050	0.015	0.027	0.080

Client Sample ID: [redacted] **- Basement:062613**

Lab ID#: 1306507-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.0052	0.010	0.028	0.054
Tetrachloroethene	0.035	0.037	0.23	0.25

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Client Sample ID: [redacted] **- Basement:062613**

Lab ID#: 1306507-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**v062914sim**	**Date of Collection: 6/26/13 7:26:00 AM**	
Dil. Factor:	**1.28**	**Date of Analysis: 6/30/13 12:14 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.013	Not Detected	0.033	Not Detected
Trichloroethene	0.0038	0.0048	0.021	0.026
Tetrachloroethene	0.026	Not Detected	0.17	Not Detected
cis-1,2-Dichloroethene	0.026	Not Detected	0.10	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	104	70-130

eurofins | Air Toxics

Client Sample ID: Privacy **- Basement:062613**

Lab ID#: 1306507-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**v062915sim**	**Date of Collection:**	**6/26/13 7:32:00 AM**
Dil. Factor:	**1.65**	**Date of Analysis:**	**6/30/13 12:49 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.042	Not Detected
Trichloroethene	0.0050	0.015	0.027	0.080
Tetrachloroethene	0.033	Not Detected	0.22	Not Detected
cis-1,2-Dichloroethene	0.033	Not Detected	0.13	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	107	70-130

eurofins | Air Toxics

Client Sample ID: Privacy FOIA **- Basement:062613**

Lab ID#: 1306507-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**v062916sim**	**Date of Collection:**	**6/26/13 5:33:00 PM**
Dil. Factor:	**1.73**	**Date of Analysis:**	**6/30/13 01:25 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
Trichloroethene	0.0052	0.010	0.028	0.054
Tetrachloroethene	0.035	0.037	0.23	0.25
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	104	70-130

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1306507-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**v062907sima**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/29/13 08:56 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
Trichloroethene	0.0030	Not Detected	0.016	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	108	70-130

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Client Sample ID: CCV

Lab ID#: 1306507-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**v062902sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/29/13 04:02 PM**	

Compound	%Recovery
Vinyl Chloride	80
Trichloroethene	104
Tetrachloroethene	104
cis-1,2-Dichloroethene	86

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	111	70-130

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Client Sample ID: LCS

Lab ID#: 1306507-06A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**v062903sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/29/13 04:47 PM**	

Compound	%Recovery
Vinyl Chloride	74
Trichloroethene	100
Tetrachloroethene	96
cis-1,2-Dichloroethene	84

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	110	70-130

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Client Sample ID: LCSD

Lab ID#: 1306507-06AA

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**v062904sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/29/13 05:49 PM**	

Compound	**%Recovery**
Vinyl Chloride	79
Trichloroethene	101
Tetrachloroethene	98
cis-1,2-Dichloroethene	85

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	110	70-130

Air Toxics LTD.

CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice

Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Project Manager Piper Roelen

Collected by: (Print and Sign) Devin Brendt & Steve Shaw

Company Landau Associates Email

Address 130 2nd Ave S City Edmonds State WA Zip 98020

Phone 425-778-0907 Fax

Project Info:

P.O. # 583022.060.057

Project # 583022.060.097

Project Name Beacons Supply

Turn Around Time: ☑ Normal ☐ Rush 3 Day specify

Lab Use Only Pressurized by: Date: Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	7010 Pelcline - Basement 062613	03412	06-26-13	726	PCE/TCE/cDCE/VC TO-15 SIM	-30	-3		
02A	7014 Pelcline - Basement 062613	4223	↓	732	↓	-29.5	-5.7		
03A	7013 Greenwood - Basement 062613	34201		1733		-29	-8		

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Devin Brendt	6-27-13 950	[signature] ATL	06/28/13 1115

Notes:

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	FedEx		NA	good	(Yes) No None	1306597

ATTACHMENT 3

Laboratory Analytical Reports – Vapor (Soil and ERH SVE System)

3600 Fremont Ave. N.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Landau Associates
Piper Roelen
130 2nd Ave South
Edmonds, Washington 98020

RE: Heavens Supply
Lab ID: 1306021

June 05, 2013

Attention Piper Roelen:

Fremont Analytical, Inc. received 8 sample(s) on 6/4/2013 for the analyses presented in the following report.

Volatile Organic Compounds by EPA Method TO-15

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Michael Dee
Sr. Chemist / Principal

CC:
Ann Halvorsen
Martin Valeri

Date: *06/05/2013*

CLIENT: Landau Associates
Project: Heavens Supply
Lab Order: 1306021

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1306021-001	VMW-2:060413	06/04/2013 8:14 AM	06/04/2013 6:00 PM
1306021-002	VMW-3:060413	06/04/2013 8:31 AM	06/04/2013 6:00 PM
1306021-003	VMW-4:060413	06/04/2013 9:32 AM	06/04/2013 6:00 PM
1306021-004	SMW-2:060413	06/04/2013 9:52 AM	06/04/2013 6:00 PM
1306021-005	VMW-1:060413	06/04/2013 10:57 AM	06/04/2013 6:00 PM
1306021-006	SMW-4:060413	06/04/2013 11:11 AM	06/04/2013 6:00 PM
1306021-007	SMW-3:060413	06/04/2013 11:27 AM	06/04/2013 6:00 PM
1306021-008	VP-1:060413	06/04/2013 5:52 PM	06/04/2013 6:00 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

Case Narrative

WO#: **1306021**
Date: **6/5/2013**

CLIENT: Landau Associates
Project: Heavens Supply

I. SAMPLE RECEIPT:
Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:
Air samples are reported in ppbv and ug/m3.

The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:
Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Client: **Landau Associates**
WorkOrder: 1306021
Project: Heavens Supply

Client Sample ID: VMW-2:060413
Lab ID: 1306021-001A
Sample Type: Tedlar Bag

Date Sampled: 6/4/2013
Date Received: 6/4/2013

Analyte	Concentration (ppbv)	Concentration (ug/m³)	Reporting Limit (ppbv)	Qual	Test Method	Date Analyzed /Analyst	
Volatile Organic Compounds by EPA Method TO-15							
cis-1,2-Dichloroethene	<0.200	<0.793	0.200		TO-15	06/05/2013	MD
Tetrachloroethene (PCE)	1.52	10.3	0.300		TO-15	06/05/2013	MD
Trichloroethene (TCE)	<0.200	<1.07	0.200		TO-15	06/05/2013	MD
Vinyl chloride	<0.200	<0.511	0.200		TO-15	06/05/2013	MD
Surr: 4-Bromofluorobenzene	93.3 %Rec	--	70-130		TO-15	06/05/2013	MD

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit

Client: **Landau Associates**
WorkOrder: 1306021
Project: Heavens Supply

Client Sample ID: VMW-3:060413
Lab ID: 1306021-002A
Sample Type: Tedlar Bag

Date Sampled: 6/4/2013
Date Received: 6/4/2013

Analyte	Concentration (ppbv)	Concentration (ug/m³)	Reporting Limit (ppbv)	Qual	Test Method	Date Analyzed /Analyst	
Volatile Organic Compounds by EPA Method TO-15							
cis-1,2-Dichloroethene	3.60	14.3	0.200		TO-15	06/05/2013	MD
Tetrachloroethene (PCE)	325	2,200	0.300		TO-15	06/05/2013	MD
Trichloroethene (TCE)	17.7	95.2	0.200		TO-15	06/05/2013	MD
Vinyl chloride	<0.200	<0.511	0.200		TO-15	06/05/2013	MD
Surr: 4-Bromofluorobenzene	95.6 %Rec	--	70-130		TO-15	06/05/2013	MD

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit

Client: **Landau Associates**
WorkOrder: 1306021
Project: Heavens Supply

Client Sample ID: VMW-4:060413
Lab ID: 1306021-003A
Sample Type: Tedlar Bag

Date Sampled: 6/4/2013
Date Received: 6/4/2013

Analyte	Concentration (ppbv)	Concentration (ug/m³)	Reporting Limit (ppbv)	Qual	Test Method	Date Analyzed /Analyst	
Volatile Organic Compounds by EPA Method TO-15							
cis-1,2-Dichloroethene	0.520	2.06	0.200		TO-15	06/05/2013	MD
Tetrachloroethene (PCE)	505	3,420	0.300		TO-15	06/05/2013	MD
Trichloroethene (TCE)	5.92	31.8	0.200		TO-15	06/05/2013	MD
Vinyl chloride	<0.200	<0.511	0.200		TO-15	06/05/2013	MD
Surr: 4-Bromofluorobenzene	84.7 %Rec	--	70-130		TO-15	06/05/2013	MD

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit

Client: **Landau Associates**
WorkOrder: 1306021
Project: Heavens Supply

Client Sample ID: SMW-2:060413
Lab ID: 1306021-004A
Sample Type: Tedlar Bag

Date Sampled: 6/4/2013
Date Received: 6/4/2013

Analyte	Concentration (ppbv)	Concentration (ug/m³)	Reporting Limit (ppbv)	Qual	Test Method	Date Analyzed /Analyst	
Volatile Organic Compounds by EPA Method TO-15							
cis-1,2-Dichloroethene	<0.200	<0.793	0.200		TO-15	06/05/2013	MD
Tetrachloroethene (PCE)	120	814	0.300		TO-15	06/05/2013	MD
Trichloroethene (TCE)	0.200	1.07	0.200		TO-15	06/05/2013	MD
Vinyl chloride	<0.200	<0.511	0.200		TO-15	06/05/2013	MD
Surr: 4-Bromofluorobenzene	92.9 %Rec	--	70-130		TO-15	06/05/2013	MD

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit

Client: **Landau Associates**
WorkOrder: 1306021
Project: Heavens Supply

Client Sample ID: VMW-1:060413
Lab ID: 1306021-005A
Sample Type: Tedlar Bag

Date Sampled: 6/4/2013
Date Received: 6/4/2013

Analyte	Concentration (ppbv)	Concentration (ug/m³)	Reporting Limit (ppbv)	Qual	Test Method	Date Analyzed /Analyst	
Volatile Organic Compounds by EPA Method TO-15							
cis-1,2-Dichloroethene	<0.200	<0.793	0.200		TO-15	06/05/2013	MD
Tetrachloroethene (PCE)	37.8	256	0.300		TO-15	06/05/2013	MD
Trichloroethene (TCE)	<0.200	<1.07	0.200		TO-15	06/05/2013	MD
Vinyl chloride	<0.200	<0.511	0.200		TO-15	06/05/2013	MD
Surr: 4-Bromofluorobenzene	97.3 %Rec	--	70-130		TO-15	06/05/2013	MD

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit

Client: **Landau Associates**
WorkOrder: 1306021
Project: Heavens Supply

Client Sample ID: SMW-4:060413
Lab ID: 1306021-006A
Sample Type: Tedlar Bag

Date Sampled: 6/4/2013
Date Received: 6/4/2013

Analyte	Concentration (ppbv)	Concentration (ug/m³)	Reporting Limit (ppbv)	Qual	Test Method	Date Analyzed /Analyst	
Volatile Organic Compounds by EPA Method TO-15							
cis-1,2-Dichloroethene	<0.200	<0.793	0.200		TO-15	06/05/2013	MD
Tetrachloroethene (PCE)	71.9	488	0.300		TO-15	06/05/2013	MD
Trichloroethene (TCE)	<0.200	<1.07	0.200		TO-15	06/05/2013	MD
Vinyl chloride	<0.200	<0.511	0.200		TO-15	06/05/2013	MD
Surr: 4-Bromofluorobenzene	97.0 %Rec	--	70-130		TO-15	06/05/2013	MD

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit

Client: **Landau Associates**
WorkOrder: 1306021
Project: Heavens Supply

Client Sample ID: SMW-3:060413
Lab ID: 1306021-007A
Sample Type: Tedlar Bag

Date Sampled: 6/4/2013
Date Received: 6/4/2013

Analyte	Concentration (ppbv)	Concentration (ug/m³)	Reporting Limit (ppbv)	Qual	Test Method	Date Analyzed /Analyst	
Volatile Organic Compounds by EPA Method TO-15							
cis-1,2-Dichloroethene	<0.200	<0.793	0.200		TO-15	06/05/2013	MD
Tetrachloroethene (PCE)	211	1,430	0.300		TO-15	06/05/2013	MD
Trichloroethene (TCE)	<0.200	<1.07	0.200		TO-15	06/05/2013	MD
Vinyl chloride	<0.200	<0.511	0.200		TO-15	06/05/2013	MD
Surr: 4-Bromofluorobenzene	87.2 %Rec	--	70-130		TO-15	06/05/2013	MD

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit

Client: **Landau Associates**
WorkOrder: 1306021
Project: Heavens Supply

Client Sample ID: VP-1:060413
Lab ID: 1306021-008A
Sample Type: Tedlar Bag

Date Sampled: 6/4/2013
Date Received: 6/4/2013

Analyte	Concentration (ppbv)	Concentration (ug/m³)	Reporting Limit (ppbv)	Qual	Test Method	Date Analyzed /Analyst	
Volatile Organic Compounds by EPA Method TO-15							
cis-1,2-Dichloroethene	<0.200	<0.793	0.200		TO-15	06/05/2013	MD
Tetrachloroethene (PCE)	0.640	4.34	0.300		TO-15	06/05/2013	MD
Trichloroethene (TCE)	<0.200	<1.07	0.200		TO-15	06/05/2013	MD
Vinyl chloride	<0.200	<0.511	0.200		TO-15	06/05/2013	MD
Surr: 4-Bromofluorobenzene	93.8 %Rec	--	70-130		TO-15	06/05/2013	MD

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit

Work Order: 1306021
CLIENT: Landau Associates
Project: Heavens Supply

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method TO-15

Sample ID: **1306021-008AREP**	SampType: **REP**			Units: **ppbv**		Prep Date: **6/5/2013**		RunNo: **8764**		
Client ID: **VP-1:060413**	Batch ID: **R8764**					Analysis Date: **6/5/2013**		SeqNo: **175810**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	ND	0.200						0	0	30	
cis-1,2-Dichloroethene	ND	0.200						0	0	30	
Trichloroethene (TCE)	ND	0.200						0	0	30	
Tetrachloroethene (PCE)	0.520	0.300						0.6400	20.7	30	
Surr: 4-Bromofluorobenzene	36.8		40.00		92.1	70	130		0		

Sample ID: **LCSD-R8764**	SampType: **LCSD**			Units: **ppbv**		Prep Date: **6/5/2013**		RunNo: **8764**		
Client ID: **LCSW02**	Batch ID: **R8764**					Analysis Date: **6/5/2013**		SeqNo: **175812**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	4.58	0.200	5.000	0	91.6	70	130	3.590	24.2	30	
cis-1,2-Dichloroethene	4.60	0.200	5.000	0	92.0	70	130	3.700	21.7	30	
Trichloroethene (TCE)	4.78	0.200	5.000	0	95.6	70	130	4.110	15.1	30	
Tetrachloroethene (PCE)	5.89	0.300	5.000	0	118	70	130	4.900	18.4	30	
Surr: 4-Bromofluorobenzene	9.54		10.00		95.4	70	130		0	30	

Sample ID: **MB-R8764**	SampType: **MBLK**			Units: **ppbv**		Prep Date: **6/5/2013**		RunNo: **8764**		
Client ID: **MBLKW**	Batch ID: **R8764**					Analysis Date: **6/5/2013**		SeqNo: **175813**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	ND	0.200									
cis-1,2-Dichloroethene	ND	0.200									
Trichloroethene (TCE)	ND	0.200									
Tetrachloroethene (PCE)	ND	0.300									
Surr: 4-Bromofluorobenzene	10.2		10.00		102	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Date: *6/5/2013*

Work Order: 1306021
CLIENT: Landau Associates
Project: Heavens Supply

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method TO-15

Sample ID: **LCS-R8764** SampType: **LCS** Units: **ppbv** Prep Date: **6/5/2013** RunNo: **8764**
Client ID: **LCSW** Batch ID: **R8764** Analysis Date: **6/5/2013** SeqNo: **175821**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	3.59	0.200	5.000	0	71.8	70	130				
cis-1,2-Dichloroethene	3.70	0.200	5.000	0	74.0	70	130				
Trichloroethene (TCE)	4.11	0.200	5.000	0	82.2	70	130				
Tetrachloroethene (PCE)	4.90	0.300	5.000	0	98.0	70	130				
Surr: 4-Bromofluorobenzene	9.31		10.00		93.1	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Sample Log-In Check List

Client Name: **LA**	Work Order Number: **1306021**
Logged by: **Clare Griggs**	Date Received: **6/4/2013 6:00:00 PM**

Chain of Custody

1.	Were custodial seals present?	Yes	☐	No	☐	Not Required	☑
2.	Is Chain of Custody complete?	Yes	☑	No	☐	Not Present	☐
3.	How was the sample delivered?	Client					

Log In

4.	Coolers are present?	Yes	☐	No	☑	NA	☐
		Air Samples					
5.	Was an attempt made to cool the samples?	Yes	☐	No	☐	NA	☑
6.	Were all coolers received at a temperature of >0° C to 10.0°C	Yes	☐	No	☐	NA	☑
7.	Sample(s) in proper container(s)?	Yes	☑	No	☐		
8.	Sufficient sample volume for indicated test(s)?	Yes	☑	No	☐		
9.	Are samples properly preserved?	Yes	☑	No	☐		
10.	Was preservative added to bottles?	Yes	☐	No	☑	NA	☐
11.	Is there headspace present in VOA vials?	Yes	☐	No	☐	NA	☑
12.	Did all sample containers arrive in good condition?(unbroken)	Yes	☑	No	☐		
13.	Does paperwork match bottle labels?	Yes	☑	No	☐		
14.	Are matrices correctly identified on Chain of Custody?	Yes	☑	No	☐		
15.	Is it clear what analyses were requested?	Yes	☑	No	☐		
16.	Were all holding times able to be met?	Yes	☑	No	☐		

Special Handling (if applicable)

17.	Was client notified of all discrepancies with this order?	Yes	☐	No	☐	NA	☑

Person Notified:		Date:	
By Whom:		Via:	☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:			
Client Instructions:			

18. Additional remarks/Disrepancies

Item Information

LANDAU ASSOCIATES

X Seattle/Edmonds (425) 778-0907
☐ Tacoma (253) 926-2493
☐ Spokane (509) 327-9737
☐ Portland (503) 542-1080
☐

Soil Vapor

Date 6-4-13
Page 1 of 1

Chain-of-Custody Record

Project Name Heavens Supply Project No. 583002.090.056
Project Location/Event Seattle, WA
Sampler's Name Devon Brandt, Steve Shaw
Project Contact Piper Roelen
Send Results To Piper Roelen, Anne Halvorsen, Martin Valeri

Testing Parameters: * PCE/TCE/cDCE/VC

Turnaround Time
☐ Standard
☒ Accelerated
☐ 24 hr

Sample I.D.	Date	Time	Matrix	No. of Containers	* PCE/TCE/cDCE/VC	Observations/Comments
VMW-2:060413	6-4-13	814	Air	1	X	
VMW-3:060413	↓	831	↓	1	X	
VMW-4:060413	↓	932	↓	1	X	
SMW-2:060413	↓	952	↓	1	X	
VMW-1:060413	↓	1057	↓	1	X	
SMW-4:060413	↓	1111	↓	1	X	
SMW-3:060413	↓	1127	↓	1	X	
VP-1:060413		1752		1	X	

Observations/Comments

X Allow water samples to settle, collect aliquot from clear portion

X NWTPH-Dx - run acid wash/silica gel cleanup

__ run samples standardized to ______ product

__ Analyze for EPH if no specific product identified

VOC/BTEX/VPH (soil):
__ non-preserved
__ preserved w/methanol
__ preserved w/sodium bisulfate
__ Freeze upon receipt

__ Dissolved metal water samples field filtered

Other * TO-15

Special Shipment/Handling or Storage Requirements

Method of Shipment Lab drop-off

Relinquished by	Received by	Relinquished by	Received by
Signature [signature]	Signature [signature]	Signature	Signature
Printed Name Steven B. Shaw	Printed Name Chelsea Ward	Printed Name	Printed Name
Company Landau Associates	Company FAI	Company	Company
Date 6/7/13 Time 1800	Date 6/4/13 Time 1800	Date Time	Date Time

WHITE COPY - Project File YELLOW COPY - Laboratory PINK COPY - Client Representative

Rev 8/09

3600 Fremont Ave. N.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Landau Associates
Piper Roelen
130 2nd Ave South
Edmonds, Washington 98020

RE: Heavens Supply
Lab ID: 1306022

June 06, 2013

Attention Piper Roelen:

Fremont Analytical, Inc. received 3 sample(s) on 6/4/2013 for the analyses presented in the following report.

Volatile Organic Compounds by EPA Method TO-15

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Michael Dee
Sr. Chemist / Principal

CC:
Ann Halvorsen
Martin Valeri

Date: *06/06/2013*

CLIENT: Landau Associates
Project: Heavens Supply
Lab Order: 1306022

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1306022-001	ERH-INF:060413	06/04/2013 10:33 AM	06/04/2013 6:00 PM
1306022-002	ERH-EFF:060413	06/04/2013 10:36 AM	06/04/2013 6:00 PM
1306022-003	ERH-MID2:060413	06/04/2013 10:41 AM	06/04/2013 6:00 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

Case Narrative

WO#: **1306022**
Date: **6/6/2013**

CLIENT: Landau Associates
Project: Heavens Supply

I. SAMPLE RECEIPT:
Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:
Air samples are reported in ppbv and ug/m3.

The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:
Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Client: **Landau Associates**
WorkOrder: 1306022
Project: Heavens Supply

Client Sample ID: ERH-INF:060413
Lab ID: 1306022-001A
Sample Type: Tedlar Bag

Date Sampled: 6/4/2013
Date Received: 6/4/2013

Analyte	Concentration (ppbv)	Concentration (ug/m³)	Reporting Limit (ppbv)	Qual	Test Method	Date Analyzed /Analyst	
Volatile Organic Compounds by EPA Method TO-15							
1,1,1-Trichloroethane	<0.200	<1.09	0.200		TO-15	06/05/2013	SG
1,1,2,2-Tetrachloroethane	<0.300	<2.06	0.300		TO-15	06/05/2013	SG
CFC-113	<0.500	<3.83	0.500		TO-15	06/05/2013	SG
1,1,2-Trichloroethane (TCA)	<0.500	<2.73	0.500		TO-15	06/05/2013	SG
1,1-Dichloroethane	<0.200	<0.810	0.200		TO-15	06/05/2013	SG
1,1-Dichloroethene (DCE)	<0.200	<0.793	0.200		TO-15	06/05/2013	SG
1,2,4-Trichlorobenzene	<0.300	<2.23	0.300		TO-15	06/05/2013	SG
1,2-Dichlorobenzene	<0.300	<1.80	0.300		TO-15	06/05/2013	SG
1,2-Dichloroethane	<0.200	<0.809	0.200		TO-15	06/05/2013	SG
1,2-Dichloropropane	<0.500	<2.31	0.500		TO-15	06/05/2013	SG
1,3-Dichlorobenzene	<0.300	<1.80	0.300		TO-15	06/05/2013	SG
1,4-Dichlorobenzene	<0.300	<1.80	0.300		TO-15	06/05/2013	SG
Benzyl chloride	<0.500	<2.59	0.500		TO-15	06/05/2013	SG
Dichlorobromomethane	<0.300	<2.01	0.300		TO-15	06/05/2013	SG
Carbon tetrachloride	<0.200	<1.26	0.200		TO-15	06/05/2013	SG
Chlorobenzene	0.880	4.05	0.200		TO-15	06/05/2013	SG
D bromochloromethane	<0.500	<4.26	0.500		TO-15	06/05/2013	SG
Chloroethane	1.32	3.48	0.500		TO-15	06/05/2013	SG
Chloroform	<0.200	<0.977	0.200		TO-15	06/05/2013	SG
Chloromethane	4.72	9.75	0.500		TO-15	06/05/2013	SG
cis-1,2-Dichloroethene	10.1	40.0	0.200		TO-15	06/05/2013	SG
cis-1,3-dichloropropene	<0.500	<2.27	0.500		TO-15	06/05/2013	SG
Dichlorodifluoromethane (CFC-12)	<0.300	<1.48	0.300		TO-15	06/05/2013	SG
Dichlorotetrafluoroethane (CFC-114)	<0.500	<3.50	0.500		TO-15	06/05/2013	SG
Hexachlorobutadiene	<1.00	<10.7	1.00		TO-15	06/05/2013	SG
Tetrachloroethene (PCE)	1,280	8,680	0.300		TO-15	06/06/2013	SG
trans-1,2-Dichloroethene	<0.200	<0.793	0.200		TO-15	06/05/2013	SG
trans-1,3-dichloropropene	<0.500	<2.27	0.500		TO-15	06/05/2013	SG
Trichloroethene (TCE)	54.1	291	0.200		TO-15	06/05/2013	SG
Trichlorofluoromethane (CFC-11)	<0.300	<1.69	0.300		TO-15	06/05/2013	SG
Vinyl chloride	<0.200	<0.511	0.200		TO-15	06/05/2013	SG
Surr: 4-Bromofluorobenzene	110 %Rec	--	70-130		TO-15	06/05/2013	SG

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit

Client: **Landau Associates**
WorkOrder: 1306022
Project: Heavens Supply

Client Sample ID: ERH-EFF:060413
Lab ID: 1306022-002A
Sample Type: Tedlar Bag

Date Sampled: 6/4/2013
Date Received: 6/4/2013

Analyte	Concentration (ppbv)	Concentration (ug/m³)	Reporting Limit (ppbv)	Qual	Test Method	Date Analyzed /Analyst	
Volatile Organic Compounds by EPA Method TO-15							
1,1,1-Trichloroethane	<0.200	<1.09	0.200		TO-15	06/06/2013	SG
1,1,2,2-Tetrachloroethane	<0.300	<2.06	0.300		TO-15	06/06/2013	SG
CFC-113	<0.500	<3.83	0.500		TO-15	06/06/2013	SG
1,1,2-Trichloroethane (TCA)	<0.500	<2.73	0.500		TO-15	06/06/2013	SG
1,1-Dichloroethane	<0.200	<0.810	0.200		TO-15	06/06/2013	SG
1,1-Dichloroethene (DCE)	1.44	5.71	0.200		TO-15	06/06/2013	SG
1,2,4-Trichlorobenzene	<0.300	<2.23	0.300		TO-15	06/06/2013	SG
1,2-Dichlorobenzene	<0.300	<1.80	0.300		TO-15	06/06/2013	SG
1,2-Dichloroethane	0.480	1.94	0.200		TO-15	06/06/2013	SG
1,2-Dichloropropane	<0.500	<2.31	0.500		TO-15	06/06/2013	SG
1,3-Dichlorobenzene	<0.300	<1.80	0.300		TO-15	06/06/2013	SG
1,4-Dichlorobenzene	<0.300	<1.80	0.300		TO-15	06/06/2013	SG
Benzyl chloride	<0.500	<2.59	0.500		TO-15	06/06/2013	SG
Dichlorobromomethane	<0.300	<2.01	0.300		TO-15	06/06/2013	SG
Carbon tetrachloride	<0.200	<1.26	0.200		TO-15	06/06/2013	SG
Chlorobenzene	0.460	2.12	0.200		TO-15	06/06/2013	SG
D bromochloromethane	<0.500	<4.26	0.500		TO-15	06/06/2013	SG
Chloroethane	<0.500	<1.32	0.500		TO-15	06/06/2013	SG
Chloroform	<0.200	<0.977	0.200		TO-15	06/06/2013	SG
Chloromethane	6.48	13.4	0.500		TO-15	06/06/2013	SG
cis-1,2-Dichloroethene	1.82	7.22	0.200		TO-15	06/06/2013	SG
cis-1,3-dichloropropene	<0.500	<2.27	0.500		TO-15	06/06/2013	SG
Dichlorodifluoromethane (CFC-12)	0.700	3.46	0.300		TO-15	06/06/2013	SG
Dichlorotetrafluoroethane (CFC-114)	<0.500	<3.50	0.500		TO-15	06/06/2013	SG
Hexachlorobutadiene	<1.00	<10.7	1.00		TO-15	06/06/2013	SG
Tetrachloroethene (PCE)	3.54	24.0	0.300		TO-15	06/06/2013	SG
trans-1,2-Dichloroethene	<0.200	<0.793	0.200		TO-15	06/06/2013	SG
trans-1,3-dichloropropene	<0.500	<2.27	0.500		TO-15	06/06/2013	SG
Trichloroethene (TCE)	1.54	8.28	0.200		TO-15	06/06/2013	SG
Trichlorofluoromethane (CFC-11)	<0.300	<1.69	0.300		TO-15	06/06/2013	SG
Vinyl chloride	<0.200	<0.511	0.200		TO-15	06/06/2013	SG
Surr: 4-Bromofluorobenzene	111 %Rec	--	70-130		TO-15	06/06/2013	SG

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit

Client: **Landau Associates**
WorkOrder: 1306022
Project: Heavens Supply

Client Sample ID: ERH-MID2:060413
Lab ID: 1306022-003A
Sample Type: Tedlar Bag

Date Sampled: 6/4/2013
Date Received: 6/4/2013

Analyte	Concentration (ppbv)	Concentration (ug/m³)	Reporting Limit (ppbv)	Qual	Test Method	Date Analyzed /Analyst	
Volatile Organic Compounds by EPA Method TO-15							
1,1,1-Trichloroethane	<0.200	<1.09	0.200		TO-15	06/05/2013	SG
1,1,2,2-Tetrachloroethane	<0.300	<2.06	0.300		TO-15	06/05/2013	SG
CFC-113	<0.500	<3.83	0.500		TO-15	06/05/2013	SG
1,1,2-Trichloroethane (TCA)	<0.500	<2.73	0.500		TO-15	06/05/2013	SG
1,1-Dichloroethane	<0.200	<0.810	0.200		TO-15	06/05/2013	SG
1,1-Dichloroethene (DCE)	26.0	103	0.200		TO-15	06/05/2013	SG
1,2,4-Trichlorobenzene	<0.300	<2.23	0.300		TO-15	06/05/2013	SG
1,2-Dichlorobenzene	<0.300	<1.80	0.300		TO-15	06/05/2013	SG
1,2-Dichloroethane	<0.200	<0.809	0.200		TO-15	06/05/2013	SG
1,2-Dichloropropane	<0.500	<2.31	0.500		TO-15	06/05/2013	SG
1,3-Dichlorobenzene	<0.300	<1.80	0.300		TO-15	06/05/2013	SG
1,4-Dichlorobenzene	<0.300	<1.80	0.300		TO-15	06/05/2013	SG
Benzyl chloride	<0.500	<2.59	0.500		TO-15	06/05/2013	SG
Dichlorobromomethane	<0.300	<2.01	0.300		TO-15	06/05/2013	SG
Carbon tetrachloride	<0.200	<1.26	0.200		TO-15	06/05/2013	SG
Chlorobenzene	<0.200	<0.921	0.200		TO-15	06/05/2013	SG
D bromochloromethane	<0.500	<4.26	0.500		TO-15	06/05/2013	SG
Chloroethane	<0.500	<1.32	0.500		TO-15	06/05/2013	SG
Chloroform	<0.200	<0.977	0.200		TO-15	06/05/2013	SG
Chloromethane	6.24	12.9	0.500		TO-15	06/05/2013	SG
cis-1,2-Dichloroethene	2.96	11.7	0.200		TO-15	06/05/2013	SG
cis-1,3-dichloropropene	<0.500	<2.27	0.500		TO-15	06/05/2013	SG
Dichlorodifluoromethane (CFC-12)	<0.300	<1.48	0.300		TO-15	06/05/2013	SG
Dichlorotetrafluoroethane (CFC-114)	<0.500	<3.50	0.500		TO-15	06/05/2013	SG
Hexachlorobutadiene	<1.00	<10.7	1.00		TO-15	06/05/2013	SG
Tetrachloroethene (PCE)	<0.300	<2.03	0.300		TO-15	06/05/2013	SG
trans-1,2-Dichloroethene	<0.200	<0.793	0.200		TO-15	06/05/2013	SG
trans-1,3-dichloropropene	<0.500	<2.27	0.500		TO-15	06/05/2013	SG
Trichloroethene (TCE)	<0.200	<1.07	0.200		TO-15	06/05/2013	SG
Trichlorofluoromethane (CFC-11)	<0.300	<1.69	0.300		TO-15	06/05/2013	SG
Vinyl chloride	<0.200	<0.511	0.200		TO-15	06/05/2013	SG
Surr: 4-Bromofluorobenzene	106 %Rec	--	70-130		TO-15	06/05/2013	SG

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit

Work Order: 1306022
CLIENT: Landau Associates
Project: Heavens Supply

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method TO-15

Sample ID: **1306022-003AREP** SampType: **REP** Units: **ppbv** Prep Date: **6/5/2013** RunNo: **8780**
Client ID: **ERH-MID2:060413** Batch ID: **R8780** Analysis Date: **6/5/2013** SeqNo: **176201**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	0.300						0	0	30	
Chloromethane	6.12	0.500						6.240	1.94	30	
Dichlorotetrafluoroethane (CFC-114)	ND	0.500						0	0	30	
Vinyl chloride	ND	0.200						0	0	30	
Trichlorofluoromethane (CFC-11)	ND	0.300						0	0	30	
Chloroethane	ND	0.500						0	0	30	
1,1-Dichloroethene (DCE)	24.1	0.200						26.04	7.66	30	
trans-1,2-Dichloroethene	ND	0.200						0	0	30	
1,1-Dichloroethane	ND	0.200						0	0	30	
cis-1,2-Dichloroethene	2.96	0.200						2.960	0	30	
Chloroform	ND	0.200						0	0	30	
1,1,1-Trichloroethane	ND	0.200						0	0	30	
Carbon tetrachloride	ND	0.200						0	0	30	
1,2-Dichloroethane	ND	0.200						0	0	30	
Trichloroethene (TCE)	ND	0.200						0	0	30	
1,2-Dichloropropane	ND	0.500						0	0	30	
Dichlorobromomethane	ND	0.300						0	0	30	
cis-1,3-dichloropropene	ND	0.500						0	0	30	
trans-1,3-dichloropropene	ND	0.500						0	0	30	
1,1,2-Trichloroethane (TCA)	ND	0.500						0	0	30	
Tetrachloroethene (PCE)	ND	0.300						0	0	30	
Dibromochloromethane	ND	0.500						0	0	30	
Chlorobenzene	ND	0.200						0	0	30	
1,1,2,2-Tetrachloroethane	ND	0.300						0	0	30	
Benzyl chloride	ND	0.500						0	0	30	
1,3-Dichlorobenzene	ND	0.300						0	0	30	
1,4-Dichlorobenzene	ND	0.300						0	0	30	
1,2-Dichlorobenzene	ND	0.300						0	0	30	
1,2,4-Trichlorobenzene	ND	0.300						0	0	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1306022
CLIENT: Landau Associates
Project: Heavens Supply

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method TO-15

Sample ID: **1306022-003AREP** SampType: **REP** Units: **ppbv** Prep Date: **6/5/2013** RunNo: **8780**
Client ID: **ERH-MID2:060413** Batch ID: **R8780** Analysis Date: **6/5/2013** SeqNo: **176201**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexachlorobutadiene	ND	1.00						0	0	30	
CFC-113	ND	0.500						0	0	30	
Surr: 4-Bromofluorobenzene	39.8		40.00		99.6	70	130		0		

Sample ID: **MB-R8780** SampType: **MBLK** Units: **ppbv** Prep Date: **6/5/2013** RunNo: **8780**
Client ID: **MBLKW** Batch ID: **R8780** Analysis Date: **6/5/2013** SeqNo: **176202**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	0.300									
Chloromethane	ND	0.500									
Dichlorotetrafluoroethane (CFC-114)	ND	0.500									
Vinyl chloride	ND	0.200									
Trichlorofluoromethane (CFC-11)	ND	0.300									
Chloroethane	ND	0.500									
1,1-Dichloroethene (DCE)	ND	0.200									
trans-1,2-Dichloroethene	ND	0.200									
1,1-Dichloroethane	ND	0.200									
cis-1,2-Dichloroethene	ND	0.200									
Chloroform	ND	0.200									
1,1,1-Trichloroethane	ND	0.200									
Carbon tetrachloride	ND	0.200									
1,2-Dichloroethane	ND	0.200									
Trichloroethene (TCE)	ND	0.200									
1,2-Dichloropropane	ND	0.500									
Dichlorobromomethane	ND	0.300									
cis-1,3-dichloropropene	ND	0.500									
trans-1,3-dichloropropene	ND	0.500									
1,1,2-Trichloroethane (TCA)	ND	0.500									

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Date: *6/6/2013*

Work Order: 1306022
CLIENT: Landau Associates
Project: Heavens Supply

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method TO-15

Sample ID: **MB-R8780** SampType: **MBLK** Units: **ppbv** Prep Date: **6/5/2013** RunNo: **8780**
Client ID: **MBLKW** Batch ID: **R8780** Analysis Date: **6/5/2013** SeqNo: **176202**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Tetrachloroethene (PCE)	ND	0.300									
Dibromochloromethane	ND	0.500									
Chlorobenzene	ND	0.200									
1,1,2,2-Tetrachloroethane	ND	0.300									
Benzyl chloride	ND	0.500									
1,3-Dichlorobenzene	ND	0.300									
1,4-Dichlorobenzene	ND	0.300									
1,2-Dichlorobenzene	ND	0.300									
1,2,4-Trichlorobenzene	ND	0.300									
Hexachlorobutadiene	ND	1.00									
CFC-113	ND	0.500									
Surr: 4-Bromofluorobenzene	11.2		10.00		112	70	130				

Sample ID: **LCS-R8780** SampType: **LCS** Units: **ppbv** Prep Date: **6/5/2013** RunNo: **8780**
Client ID: **LCSW** Batch ID: **R8780** Analysis Date: **6/5/2013** SeqNo: **176203**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	5.31	0.300	5.000	0	106	70	130				
Chloromethane	5.72	0.500	5.000	0	114	70	130				
Dichlorotetrafluoroethane (CFC-114)	5.61	0.500	5.000	0	112	70	130				
Vinyl chloride	5.34	0.200	5.000	0	107	70	130				
Trichlorofluoromethane (CFC-11)	5.64	0.300	5.000	0	113	70	130				
Chloroethane	5.90	0.500	5.000	0	118	70	130				
1,1-Dichloroethene (DCE)	5.59	0.200	5.000	0	112	70	130				
trans-1,2-Dichloroethene	5.49	0.200	5.000	0	110	70	130				
1,1-Dichloroethane	5.41	0.200	5.000	0	108	70	130				
cis-1,2-Dichloroethene	5.61	0.200	5.000	0	112	70	130				
Chloroform	5.78	0.200	5.000	0	116	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1306022
CLIENT: Landau Associates
Project: Heavens Supply

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method TO-15

Sample ID: **LCS-R8780** SampType: **LCS** Units: **ppbv** Prep Date: **6/5/2013** RunNo: **8780**
Client ID: **LCSW** Batch ID: **R8780** Analysis Date: **6/5/2013** SeqNo: **176203**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	5.91	0.200	5.000	0	118	70	130				
Carbon tetrachloride	5.04	0.200	5.000	0	101	70	130				
1,2-Dichloroethane	5.35	0.200	5.000	0	107	70	130				
Trichloroethene (TCE)	5.55	0.200	5.000	0	111	70	130				
1,2-Dichloropropane	5.21	0.500	5.000	0	104	70	130				
Dichlorobromomethane	5.81	0.300	5.000	0	116	70	130				
cis-1,3-dichloropropene	5.67	0.500	5.000	0	113	70	130				
trans-1,3-dichloropropene	5.52	0.500	5.000	0	110	70	130				
1,1,2-Trichloroethane (TCA)	5.88	0.500	5.000	0	118	70	130				
Tetrachloroethene (PCE)	5.86	0.300	5.000	0	117	70	130				
Dibromochloromethane	4.94	0.500	5.000	0	98.8	70	130				
Chlorobenzene	5.43	0.200	5.000	0	109	70	130				
1,1,2,2-Tetrachloroethane	6.04	0.300	5.000	0	121	70	130				
Benzyl chloride	5.63	0.500	5.000	0	113	70	130				
1,3-Dichlorobenzene	5.61	0.300	5.000	0	112	70	130				
1,4-Dichlorobenzene	6.35	0.300	5.000	0	127	70	130				
1,2-Dichlorobenzene	5.80	0.300	5.000	0	116	70	130				
1,2,4-Trichlorobenzene	6.44	0.300	5.000	0	129	70	130				
Hexachlorobutadiene	5.85	1.00	5.000	0	117	70	130				
CFC-113	5.92	0.500	5.000	0	118	70	130				
Surr: 4-Bromofluorobenzene	11.1		10.00		111	70	130				

Sample ID: **LCSD-R8780** SampType: **LCSD** Units: **ppbv** Prep Date: **6/5/2013** RunNo: **8780**
Client ID: **LCSW02** Batch ID: **R8780** Analysis Date: **6/5/2013** SeqNo: **176205**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	5.58	0.300	5.000	0	112	70	130	5.310	4.96	30	
Chloromethane	5.69	0.500	5.000	0	114	70	130	5.720	0.526	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Date: *6/6/2013*

Work Order: 1306022
CLIENT: Landau Associates
Project: Heavens Supply

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method TO-15

Sample ID: **LCSD-R8780** SampType: **LCSD** Units: **ppbv** Prep Date: **6/5/2013** RunNo: **8780**
Client ID: **LCSW02** Batch ID: **R8780** Analysis Date: **6/5/2013** SeqNo: **176205**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorotetrafluoroethane (CFC-114)	5.54	0.500	5.000	0	111	70	130	5.610	1.26	30	
Vinyl chloride	5.14	0.200	5.000	0	103	70	130	5.340	3.82	30	
Trichlorofluoromethane (CFC-11)	5.49	0.300	5.000	0	110	70	130	5.640	2.70	30	
Chloroethane	6.08	0.500	5.000	0	122	70	130	5.900	3.01	30	
1,1-Dichloroethene (DCE)	5.48	0.200	5.000	0	110	70	130	5.590	1.99	30	
trans-1,2-Dichloroethene	5.17	0.200	5.000	0	103	70	130	5.490	6.00	30	
1,1-Dichloroethane	5.64	0.200	5.000	0	113	70	130	5.410	4.16	30	
cis-1,2-Dichloroethene	5.43	0.200	5.000	0	109	70	130	5.610	3.26	30	
Chloroform	5.80	0.200	5.000	0	116	70	130	5.780	0.345	30	
1,1,1-Trichloroethane	6.30	0.200	5.000	0	126	70	130	5.910	6.39	30	
Carbon tetrachloride	5.23	0.200	5.000	0	105	70	130	5.040	3.70	30	
1,2-Dichloroethane	5.64	0.200	5.000	0	113	70	130	5.350	5.28	30	
Trichloroethene (TCE)	5.42	0.200	5.000	0	108	70	130	5.550	2.37	30	
1,2-Dichloropropane	5.27	0.500	5.000	0	105	70	130	5.210	1.15	30	
Dichlorobromomethane	5.62	0.300	5.000	0	112	70	130	5.810	3.32	30	
cis-1,3-dichloropropene	5.38	0.500	5.000	0	108	70	130	5.670	5.25	30	
trans-1,3-dichloropropene	5.41	0.500	5.000	0	108	70	130	5.520	2.01	30	
1,1,2-Trichloroethane (TCA)	5.53	0.500	5.000	0	111	70	130	5.880	6.13	30	
Tetrachloroethene (PCE)	5.66	0.300	5.000	0	113	70	130	5.860	3.47	30	
Dibromochloromethane	4.89	0.500	5.000	0	97.8	70	130	4.940	1.02	30	
Chlorobenzene	5.67	0.200	5.000	0	113	70	130	5.430	4.32	30	
1,1,2,2-Tetrachloroethane	6.48	0.300	5.000	0	130	70	130	6.040	7.03	30	
Benzyl chloride	6.21	0.500	5.000	0	124	70	130	5.630	9.80	30	
1,3-Dichlorobenzene	6.07	0.300	5.000	0	121	70	130	5.610	7.88	30	
1,4-Dichlorobenzene	6.02	0.300	5.000	0	120	70	130	6.350	5.34	30	
1,2-Dichlorobenzene	6.18	0.300	5.000	0	124	70	130	5.800	6.34	30	
1,2,4-Trichlorobenzene	6.42	0.300	5.000	0	128	70	130	6.440	0.311	30	
Hexachlorobutadiene	6.48	1.00	5.000	0	130	70	130	5.850	10.2	30	
CFC-113	5.91	0.500	5.000	0	118	70	130	5.920	0.169	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Date: *6/6/2013*

Work Order: 1306022
CLIENT: Landau Associates
Project: Heavens Supply

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method TO-15

Sample ID: **LCSD-R8780** SampType: **LCSD** Units: **ppbv** Prep Date: **6/5/2013** RunNo: **8780**
Client ID: **LCSW02** Batch ID: **R8780** Analysis Date: **6/5/2013** SeqNo: **176205**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	10.8		10.00		108	70	130		0		

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Sample Log-In Check List

Client Name: **LA**	Work Order Number: **1306022**
Logged by: **Clare Griggs**	Date Received: **6/4/2013 6:00:00 PM**

Chain of Custody

1.	Were custodial seals present?	Yes	☐	No	☐	Not Required	☑
2.	Is Chain of Custody complete?	Yes	☑	No	☐	Not Present	☐
3.	How was the sample delivered?	Client					

Log In

4.	Coolers are present?	Yes	☐	No	☑	NA	☐
		Air Samples					
5.	Was an attempt made to cool the samples?	Yes	☐	No	☐	NA	☑
6.	Were all coolers received at a temperature of >0° C to 10.0°C	Yes	☐	No	☐	NA	☑
7.	Sample(s) in proper container(s)?	Yes	☑	No	☐		
8.	Sufficient sample volume for indicated test(s)?	Yes	☑	No	☐		
9.	Are samples properly preserved?	Yes	☑	No	☐		
10.	Was preservative added to bottles?	Yes	☐	No	☑	NA	☐
11.	Is there headspace present in VOA vials?	Yes	☐	No	☐	NA	☑
12.	Did all sample containers arrive in good condition?(unbroken)	Yes	☑	No	☐		
13.	Does paperwork match bottle labels?	Yes	☑	No	☐		
14.	Are matrices correctly identified on Chain of Custody?	Yes	☑	No	☐		
15.	Is it clear what analyses were requested?	Yes	☑	No	☐		
16.	Were all holding times able to be met?	Yes	☑	No	☐		

Special Handling (if applicable)

17.	Was client notified of all discrepancies with this order?	Yes	☐	No	☐	NA	☑

Person Notified:		Date:	
By Whom:		Via:	☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:			
Client Instructions:			

18. Additional remarks/Disrepancies

Item Information

LANDAU ASSOCIATES

- [x] Seattle/Edmonds (425) 778-0907
- [ ] Tacoma (253) 926-2493
- [ ] Spokane (509) 327-3737
- [ ] Portland (503) 542-1080
- [ ] _____

ERH Vapor

1306022

Date 6-4-13

Page 1 of 1

Chain-of-Custody Record

Project Name Heavens Supply Project No. 583002.050.056

Project Location/Event Seattle, WA

Sampler's Name Devan Brandt

Project Contact Piper Roden

Send Results To Piper Roden, Anne Halvosen, Martin Valer

Turnaround Time
- [ ] Standard
- [x] Accelerated
- [ ] 48 hour

Testing Parameters

Sample I.D.	Date	Time	Matrix	No. of Containers	X cVOCs TO-15	Observations/Comments
ERH-INF-060413	6-4-13	1033	Air	1	X	
ERH-EFF-060413	↓	1036	↓	1	X	
ERH-MID2-060413	↓	1041	↓	1	X	

Observations/Comments:

- X Allow water samples to settle, collect aliquot from clear portion
- X NWTPH-Dx - run acid wash/silica gel cleanup
- ___ run samples standardized to _____ product
- ___ Analyze for EPH if no specific product identified

VOC/BTEX/VPH (soil):
- ___ non-preserved
- ___ preserved w/methanol
- ___ preserved w/sodium bisulfate
- ___ Freeze upon receipt

- ___ Dissolved metal water samples field filtered

Other _____

Special Shipment/Handling or Storage Requirements

Method of Shipment Lab Drop off

Relinquished by	Received by	Relinquished by	Received by
Signature	Signature	Signature	Signature
Printed Name Steve Shea	Printed Name Chelsea Ward	Printed Name	Printed Name
Company Landau Associates	Company FAI	Company	Company
Date 6/4/13 Time 1800	Date 6/4/13 Time 1800	Date Time	Date Time

WHITE COPY - Project File YELLOW COPY - Laboratory PINK COPY - Client Representative

Rev 8/08

3600 Fremont Ave. N.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Landau Associates
Piper Roelen
130 2nd Ave South
Edmonds, Washington 98020

RE: Heavens Supply
Lab ID: 1306074

June 12, 2013

Attention Piper Roelen:

Fremont Analytical, Inc. received 7 sample(s) on 6/11/2013 for the analyses presented in the following report.

Volatile Organic Compounds by EPA Method TO-15

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Michael Dee
Sr. Chemist / Principal

CC:
Ann Halvorsen
Martin Valeri

Date: *06/12/2013*

CLIENT: Landau Associates
Project: Heavens Supply
Lab Order: 1306074

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1306074-001	VMW-2:061113	06/11/2013 9:39 AM	06/11/2013 6:21 PM
1306074-002	VMW-3:061113	06/11/2013 9:56 AM	06/11/2013 6:21 PM
1306074-003	VMW-4:061113	06/11/2013 10:18 AM	06/11/2013 6:21 PM
1306074-004	SMW-2:061113	06/11/2013 10:39 AM	06/11/2013 6:21 PM
1306074-005	VMW-1:061113	06/11/2013 11:13 AM	06/11/2013 6:21 PM
1306074-006	SMW-4:061113	06/11/2013 11:33 AM	06/11/2013 6:21 PM
1306074-007	SMW-3:061113	06/11/2013 11:51 AM	06/11/2013 6:21 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

Case Narrative

WO#: **1306074**
Date: **6/12/2013**

CLIENT: Landau Associates
Project: Heavens Supply

I. SAMPLE RECEIPT:
Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:
Air samples are reported in ppbv and ug/m3.

The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:
Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Client: **Landau Associates**
WorkOrder: 1306074
Project: Heavens Supply

Client Sample ID: VMW-2:061113
Lab ID: 1306074-001A
Sample Type: Tedlar Bag

Date Sampled: 6/11/2013
Date Received: 6/11/2013

Analyte	Concentration (ppbv)	Concentration (ug/m³)	Reporting Limit (ppbv)	Qual	Test Method	Date Analyzed /Analyst	
Volatile Organic Compounds by EPA Method TO-15							
cis-1,2-Dichloroethene	<0.200	<0.793	0.200		TO-15	06/12/2013	SG
Tetrachloroethene (PCE)	<0.300	<2.03	0.300		TO-15	06/12/2013	SG
Trichloroethene (TCE)	<0.200	<1.07	0.200		TO-15	06/12/2013	SG
Vinyl chloride	<0.200	<0.511	0.200		TO-15	06/12/2013	SG
Surr: 4-Bromofluorobenzene	110 %Rec	--	70-130		TO-15	06/12/2013	SG

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit

Client: **Landau Associates**
WorkOrder: 1306074
Project: Heavens Supply

Client Sample ID: VMW-3:061113
Lab ID: 1306074-002A
Sample Type: Tedlar Bag

Date Sampled: 6/11/2013
Date Received: 6/11/2013

Analyte	Concentration (ppbv)	Concentration (ug/m³)	Reporting Limit (ppbv)	Qual	Test Method	Date Analyzed /Analyst	
Volatile Organic Compounds by EPA Method TO-15							
cis-1,2-Dichloroethene	4.48	17.8	0.200		TO-15	06/12/2013	SG
Tetrachloroethene (PCE)	230	1,560	0.300		TO-15	06/12/2013	SG
Trichloroethene (TCE)	17.8	95.9	0.200		TO-15	06/12/2013	SG
Vinyl chloride	<0.200	<0.511	0.200		TO-15	06/12/2013	SG
Surr: 4-Bromofluorobenzene	101 %Rec	--	70-130		TO-15	06/12/2013	SG

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit

Client: **Landau Associates**
WorkOrder: 1306074
Project: Heavens Supply

Client Sample ID: VMW-4:061113
Lab ID: 1306074-003A
Sample Type: Tedlar Bag

Date Sampled: 6/11/2013
Date Received: 6/11/2013

Analyte	Concentration (ppbv)	Concentration (ug/m³)	Reporting Limit (ppbv)	Qual	Test Method	Date Analyzed /Analyst	
Volatile Organic Compounds by EPA Method TO-15							
cis-1,2-Dichloroethene	<0.200	<0.793	0.200		TO-15	06/12/2013	SG
Tetrachloroethene (PCE)	382	2,590	0.300		TO-15	06/12/2013	SG
Trichloroethene (TCE)	6.40	34.4	0.200		TO-15	06/12/2013	SG
Vinyl chloride	<0.200	<0.511	0.200		TO-15	06/12/2013	SG
Surr: 4-Bromofluorobenzene	93.0 %Rec	--	70-130		TO-15	06/12/2013	SG

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit

Client: **Landau Associates**
WorkOrder: 1306074
Project: Heavens Supply

Client Sample ID: SMW-2:061113
Lab ID: 1306074-004A
Sample Type: Tedlar Bag

Date Sampled: 6/11/2013
Date Received: 6/11/2013

Analyte	Concentration (ppbv)	Concentration (ug/m³)	Reporting Limit (ppbv)	Qual	Test Method	Date Analyzed /Analyst	
Volatile Organic Compounds by EPA Method TO-15							
cis-1,2-Dichloroethene	<0.200	<0.793	0.200		TO-15	06/12/2013	SG
Tetrachloroethene (PCE)	113	764	0.300		TO-15	06/12/2013	SG
Trichloroethene (TCE)	<0.200	<1.07	0.200		TO-15	06/12/2013	SG
Vinyl chloride	<0.200	<0.511	0.200		TO-15	06/12/2013	SG
Surr: 4-Bromofluorobenzene	96.1 %Rec	--	70-130		TO-15	06/12/2013	SG

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit

Client: **Landau Associates**
WorkOrder: 1306074
Project: Heavens Supply

Client Sample ID: VMW-1:061113
Lab ID: 1306074-005A
Sample Type: Tedlar Bag

Date Sampled: 6/11/2013
Date Received: 6/11/2013

Analyte	Concentration (ppbv)	Concentration (ug/m³)	Reporting Limit (ppbv)	Qual	Test Method	Date Analyzed /Analyst	
Volatile Organic Compounds by EPA Method TO-15							
cis-1,2-Dichloroethene	<0.200	<0.793	0.200		TO-15	06/12/2013	SG
Tetrachloroethene (PCE)	9.44	64.0	0.300		TO-15	06/12/2013	SG
Trichloroethene (TCE)	<0.200	<1.07	0.200		TO-15	06/12/2013	SG
Vinyl chloride	<0.200	<0.511	0.200		TO-15	06/12/2013	SG
Surr: 4-Bromofluorobenzene	96.6 %Rec	--	70-130		TO-15	06/12/2013	SG

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit

Client: **Landau Associates**
WorkOrder: 1306074
Project: Heavens Supply

Client Sample ID: SMW-4:061113
Lab ID: 1306074-006A
Sample Type: Tedlar Bag

Date Sampled: 6/11/2013
Date Received: 6/11/2013

Analyte	Concentration (ppbv)	Concentration (ug/m³)	Reporting Limit (ppbv)	Qual	Test Method	Date Analyzed /Analyst	
Volatile Organic Compounds by EPA Method TO-15							
cis-1,2-Dichloroethene	<0.200	<0.793	0.200		TO-15	06/12/2013	SG
Tetrachloroethene (PCE)	42.6	289	0.300		TO-15	06/12/2013	SG
Trichloroethene (TCE)	<0.200	<1.07	0.200		TO-15	06/12/2013	SG
Vinyl chloride	<0.200	<0.511	0.200		TO-15	06/12/2013	SG
Surr: 4-Bromofluorobenzene	92.1 %Rec	--	70-130		TO-15	06/12/2013	SG

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit

Client: **Landau Associates**
WorkOrder: 1306074
Project: Heavens Supply

Client Sample ID: SMW-3:061113
Lab ID: 1306074-007A
Sample Type: Tedlar Bag

Date Sampled: 6/11/2013
Date Received: 6/11/2013

Analyte	Concentration (ppbv)	Concentration (ug/m³)	Reporting Limit (ppbv)	Qual	Test Method	Date Analyzed /Analyst	
Volatile Organic Compounds by EPA Method TO-15							
cis-1,2-Dichloroethene	<0.200	<0.793	0.200		TO-15	06/12/2013	SG
Tetrachloroethene (PCE)	154	1,040	0.300		TO-15	06/12/2013	SG
Trichloroethene (TCE)	<0.200	<1.07	0.200		TO-15	06/12/2013	SG
Vinyl chloride	<0.200	<0.511	0.200		TO-15	06/12/2013	SG
Surr: 4-Bromofluorobenzene	115 %Rec	--	70-130		TO-15	06/12/2013	SG

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit

Work Order: 1306074
CLIENT: Landau Associates
Project: Heavens Supply

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method TO-15

Sample ID: **LCSD-R8853**	SampType: **LCS**			Units: **ppbv**		Prep Date: **6/11/2013**			RunNo: **8853**	
Client ID: **LCSW**	Batch ID: **R8853**					Analysis Date: **6/11/2013**			SeqNo: **177670**	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	4.35	0.200	5.000	0	87.0	70	130	4.250	2.33		
cis-1,2-Dichloroethene	5.61	0.200	5.000	0	112	70	130	5.580	0.536		
Trichloroethene (TCE)	5.67	0.200	5.000	0	113	70	130	5.600	1.24		
Tetrachloroethene (PCE)	4.52	0.300	5.000	0	90.4	70	130	4.460	1.34		
Surr: 4-Bromofluorobenzene	9.45		10.00		94.5	70	130		0		

Sample ID: **LCS-R8853**	SampType: **LCS**			Units: **ppbv**		Prep Date: **6/11/2013**			RunNo: **8853**	
Client ID: **LCSW**	Batch ID: **R8853**					Analysis Date: **6/11/2013**			SeqNo: **177671**	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	4.25	0.200	5.000	0	85.0	70	130				
cis-1,2-Dichloroethene	5.58	0.200	5.000	0	112	70	130				
Trichloroethene (TCE)	5.60	0.200	5.000	0	112	70	130				
Tetrachloroethene (PCE)	4.46	0.300	5.000	0	89.2	70	130				
Surr: 4-Bromofluorobenzene	9.49		10.00		94.9	70	130				

Sample ID: **MB-R8853**	SampType: **MBLK**			Units: **ppbv**		Prep Date: **6/12/2013**			RunNo: **8853**	
Client ID: **MBLKW**	Batch ID: **R8853**					Analysis Date: **6/12/2013**			SeqNo: **177672**	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	ND	0.200									
cis-1,2-Dichloroethene	ND	0.200									
Trichloroethene (TCE)	ND	0.200									
Tetrachloroethene (PCE)	ND	0.300									
Surr: 4-Bromofluorobenzene	10.4		10.00		104	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Date: *6/12/2013*

Work Order: 1306074
CLIENT: Landau Associates
Project: Heavens Supply

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method TO-15

Sample ID: **1306074-007AREP** SampType: **REP** Units: **ppbv** Prep Date: **6/12/2013** RunNo: **8853**
Client ID: **SMW-3:061113** Batch ID: **R8853** Analysis Date: **6/12/2013** SeqNo: **177908**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	ND	0.200						0	0	30	
cis-1,2-Dichloroethene	ND	0.200						0	0	30	
Trichloroethene (TCE)	ND	0.200						0	0	30	
Tetrachloroethene (PCE)	167	0.300						153.9	8.22	30	
Surr: 4-Bromofluorobenzene	83.9		80.00		105	70	130		0		

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Sample Log-In Check List

Client Name: **LA**	Work Order Number: **1306074**
Logged by: **Clare Griggs**	Date Received: **6/11/2013 6:21:00 PM**

Chain of Custody

1.	Were custodial seals present?	Yes	☐	No	☐	Not Required ☑
2.	Is Chain of Custody complete?	Yes	☑	No	☐	Not Present ☐
3.	How was the sample delivered?	Client				

Log In

4.	Coolers are present?	Yes	☐	No	☑	NA ☐
		Air Samples				
5.	Was an attempt made to cool the samples?	Yes	☐	No	☐	NA ☑
6.	Were all coolers received at a temperature of >0° C to 10.0°C	Yes	☐	No	☐	NA ☑
7.	Sample(s) in proper container(s)?	Yes	☑	No	☐	
8.	Sufficient sample volume for indicated test(s)?	Yes	☑	No	☐	
9.	Are samples properly preserved?	Yes	☑	No	☐	
10.	Was preservative added to bottles?	Yes	☐	No	☑	NA ☐
11.	Is there headspace present in VOA vials?	Yes	☐	No	☐	NA ☑
12.	Did all sample containers arrive in good condition?(unbroken)	Yes	☑	No	☐	
13.	Does paperwork match bottle labels?	Yes	☑	No	☐	
14.	Are matrices correctly identified on Chain of Custody?	Yes	☑	No	☐	
15.	Is it clear what analyses were requested?	Yes	☑	No	☐	
16.	Were all holding times able to be met?	Yes	☑	No	☐	

Special Handling (if applicable)

17.	Was client notified of all discrepancies with this order?	Yes	☐	No	☐	NA ☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

18. Additional remarks/Disrepancies

Item Information

LANDAU ASSOCIATES

☒ Seattle/Edmonds (425) 778-0907
☐ Tacoma (253) 926-2493
☐ Spokane (509) 327-9737
☐ Portland (503) 542-1080
☐ _____

1306074

Date 6-11-13
Page 1 of 1

Chain-of-Custody Record

Project Name Heavens Supply Project No. 583002.050.056
Project Location/Event Seattle, WA
Sampler's Name Devan Brandt & Steve Shaw
Project Contact Piper Roelen
Send Results To Piper Roelen, Anne Halvorson, Martin Valeri

Testing Parameters

Turnaround Time
☐ Standard
☒ Accelerated
☐ 24 hour

Sample I.D.	Date	Time	Matrix	No. of Containers	#	Observations/Comments
VMW-2:061113	6-11-13	939	Air	1	X	
VMW-3:061113		956		1	X	
VMW-4:061113		1018		1	X	
SMW-2:061113		1039		1	X	
VMW-1:061113		1113		1	X	
SMW-4:061113		1133		1	X	
SMW-3:061113		1151		1	X	

10-15

X Allow water samples to settle, collect aliquot from clear portion
X NWTPH-Dx - run acid wash/silica gel cleanup
___ run samples standardized to _____ product
___ Analyze for EPH if no specific product identified
VOC/BTEX/VPH (soil):
___ non-preserved
___ preserved w/methanol
___ preserved w/sodium bisulfate
___ Freeze upon receipt
___ Dissolved metal water samples field filtered
Other # PCE/TCE/cDCE/VC

Special Shipment/Handling or Storage Requirements

Method of Shipment delivery

Relinquished by	Received by	Relinquished by	Received by
Signature	Signature Adam Officer	Signature	Signature
Printed Name Steven Shaw	Printed Name Fremont Analytical	Printed Name	Printed Name
Company Landau Assoc.	Company	Company	Company
Date 6/11/13 Time 1821	Date 6/11/13 Time 18:21	Date Time	Date Time

WHITE COPY - Project File YELLOW COPY - Laboratory PINK COPY - Client Representative Rev 8/09

3600 Fremont Ave. N.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Landau Associates
Piper Roelen
130 2nd Ave South
Edmonds, Washington 98020

RE: Heavens Supply
Lab ID: 1306185

June 27, 2013

Attention Piper Roelen:

Fremont Analytical, Inc. received 8 sample(s) on 6/25/2013 for the analyses presented in the following report.

Volatile Organic Compounds by EPA Method TO-15

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Michael Dee
Sr. Chemist / Principal

CC:
Ann Halvorsen
Martin Valeri

Date: *06/27/2013*

CLIENT: Landau Associates
Project: Heavens Supply
Lab Order: 1306185

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1306185-001	VMW-2:062513	06/25/2013 8:21 AM	06/25/2013 6:06 PM
1306185-002	VMW-3:062513	06/25/2013 8:38 AM	06/25/2013 6:06 PM
1306185-003	VMW-4:062513	06/25/2013 8:59 AM	06/25/2013 6:06 PM
1306185-004	SMW-2:062513	06/25/2013 9:37 AM	06/25/2013 6:06 PM
1306185-005	VMW-1:062513	06/25/2013 10:11 AM	06/25/2013 6:06 PM
1306185-006	SMW-4:062513	06/25/2013 11:00 AM	06/25/2013 6:06 PM
1306185-007	SMW-3:062513	06/25/2013 11:15 AM	06/25/2013 6:06 PM
1306185-008	VP-1:062513	06/25/2013 5:50 PM	06/25/2013 6:06 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

Case Narrative

WO#: **1306185**
Date: **6/27/2013**

CLIENT: Landau Associates
Project: Heavens Supply

I. SAMPLE RECEIPT:
Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:
Air samples are reported in ppbv and ug/m3.

The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:
Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Client: **Landau Associates**
WorkOrder: 1306185
Project: Heavens Supply

Client Sample ID: VMW-2:062513
Lab ID: 1306185-001A
Sample Type: Tedlar Bag

Date Sampled: 6/25/2013
Date Received: 6/25/2013

Analyte	Concentration (ppbv)	Concentration (ug/m³)	Reporting Limit (ppbv)	Qual	Test Method	Date Analyzed /Analyst	
Volatile Organic Compounds by EPA Method TO-15							
cis-1,2-Dichloroethene	<0.200	<0.793	0.200		TO-15	06/26/2013	SG
Tetrachloroethene (PCE)	<0.300	<2.03	0.300		TO-15	06/26/2013	SG
Trichloroethene (TCE)	<0.200	<1.07	0.200		TO-15	06/26/2013	SG
Vinyl chloride	<0.200	<0.511	0.200		TO-15	06/26/2013	SG
Surr: 4-Bromofluorobenzene	106 %Rec	--	70-130		TO-15	06/26/2013	SG

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit

Client: **Landau Associates**
WorkOrder: 1306185
Project: Heavens Supply

Client Sample ID: VMW-3:062513
Lab ID: 1306185-002A
Sample Type: Tedlar Bag

Date Sampled: 6/25/2013
Date Received: 6/25/2013

Analyte	Concentration (ppbv)	Concentration (ug/m³)	Reporting Limit (ppbv)	Qual	Test Method	Date Analyzed /Analyst	
Volatile Organic Compounds by EPA Method TO-15							
cis-1,2-Dichloroethene	4.16	16.5	0.200		TO-15	06/26/2013	SG
Tetrachloroethene (PCE)	307	2,080	0.300		TO-15	06/26/2013	SG
Trichloroethene (TCE)	21.4	115	0.200		TO-15	06/26/2013	SG
Vinyl chloride	<0.200	<0.511	0.200		TO-15	06/26/2013	SG
Surr: 4-Bromofluorobenzene	109 %Rec	--	70-130		TO-15	06/26/2013	SG

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit

Client: **Landau Associates**
WorkOrder: 1306185
Project: Heavens Supply

Client Sample ID: VMW-4:062513
Lab ID: 1306185-003A
Sample Type: Tedlar Bag

Date Sampled: 6/25/2013
Date Received: 6/25/2013

Analyte	Concentration (ppbv)	Concentration (ug/m³)	Reporting Limit (ppbv)	Qual	Test Method	Date Analyzed /Analyst	
Volatile Organic Compounds by EPA Method TO-15							
cis-1,2-Dichloroethene	<0.200	<0.793	0.200		TO-15	06/26/2013	SG
Tetrachloroethene (PCE)	441	2,990	0.300		TO-15	06/26/2013	SG
Trichloroethene (TCE)	8.32	44.7	0.200		TO-15	06/26/2013	SG
Vinyl chloride	<0.200	<0.511	0.200		TO-15	06/26/2013	SG
Surr: 4-Bromofluorobenzene	107 %Rec	--	70-130		TO-15	06/26/2013	SG

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit

Client: **Landau Associates**
WorkOrder: 1306185
Project: Heavens Supply

Client Sample ID: SMW-2:062513
Lab ID: 1306185-004A
Sample Type: Tedlar Bag

Date Sampled: 6/25/2013
Date Received: 6/25/2013

Analyte	Concentration (ppbv)	Concentration (ug/m³)	Reporting Limit (ppbv)	Qual	Test Method	Date Analyzed /Analyst	
Volatile Organic Compounds by EPA Method TO-15							
cis-1,2-Dichloroethene	<0.200	<0.793	0.200		TO-15	06/26/2013	SG
Tetrachloroethene (PCE)	169	1,150	0.300		TO-15	06/26/2013	SG
Trichloroethene (TCE)	<0.200	<1.07	0.200		TO-15	06/26/2013	SG
Vinyl chloride	<0.200	<0.511	0.200		TO-15	06/26/2013	SG
Surr: 4-Bromofluorobenzene	98.3 %Rec	--	70-130		TO-15	06/26/2013	SG

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit

Client: **Landau Associates**
WorkOrder: 1306185
Project: Heavens Supply

Client Sample ID: VMW-1:062513
Lab ID: 1306185-005A
Sample Type: Tedlar Bag

Date Sampled: 6/25/2013
Date Received: 6/25/2013

Analyte	Concentration (ppbv)	Concentration (ug/m³)	Reporting Limit (ppbv)	Qual	Test Method	Date Analyzed /Analyst	
Volatile Organic Compounds by EPA Method TO-15							
cis-1,2-Dichloroethene	<0.200	<0.793	0.200		TO-15	06/26/2013	SG
Tetrachloroethene (PCE)	14.2	96.6	0.300		TO-15	06/26/2013	SG
Trichloroethene (TCE)	<0.200	<1.07	0.200		TO-15	06/26/2013	SG
Vinyl chloride	<0.200	<0.511	0.200		TO-15	06/26/2013	SG
Surr: 4-Bromofluorobenzene	104 %Rec	--	70-130		TO-15	06/26/2013	SG

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit

Client: **Landau Associates**
WorkOrder: 1306185
Project: Heavens Supply

Client Sample ID: SMW-4:062513
Lab ID: 1306185-006A
Sample Type: Tedlar Bag

Date Sampled: 6/25/2013
Date Received: 6/25/2013

Analyte	Concentration (ppbv)	Concentration (ug/m³)	Reporting Limit (ppbv)	Qual	Test Method	Date Analyzed /Analyst	
Volatile Organic Compounds by EPA Method TO-15							
cis-1,2-Dichloroethene	<0.200	<0.793	0.200		TO-15	06/26/2013	SG
Tetrachloroethene (PCE)	51.0	346	0.300		TO-15	06/26/2013	SG
Trichloroethene (TCE)	<0.200	<1.07	0.200		TO-15	06/26/2013	SG
Vinyl chloride	<0.200	<0.511	0.200		TO-15	06/26/2013	SG
Surr: 4-Bromofluorobenzene	99.7 %Rec	--	70-130		TO-15	06/26/2013	SG

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit

Client: **Landau Associates**
WorkOrder: 1306185
Project: Heavens Supply

Client Sample ID: SMW-3:062513
Lab ID: 1306185-007A
Sample Type: Tedlar Bag

Date Sampled: 6/25/2013
Date Received: 6/25/2013

Analyte	Concentration (ppbv)	Concentration (ug/m³)	Reporting Limit (ppbv)	Qual	Test Method	Date Analyzed /Analyst	
Volatile Organic Compounds by EPA Method TO-15							
cis-1,2-Dichloroethene	<0.200	<0.793	0.200		TO-15	06/26/2013	SG
Tetrachloroethene (PCE)	169	1,150	0.300		TO-15	06/26/2013	SG
Trichloroethene (TCE)	<0.200	<1.07	0.200		TO-15	06/26/2013	SG
Vinyl chloride	<0.200	<0.511	0.200		TO-15	06/26/2013	SG
Surr: 4-Bromofluorobenzene	102 %Rec	--	70-130		TO-15	06/26/2013	SG

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit

Client: **Landau Associates**
WorkOrder: 1306185
Project: Heavens Supply

Client Sample ID: VP-1:062513
Lab ID: 1306185-008A
Sample Type: Tedlar Bag

Date Sampled: 6/25/2013
Date Received: 6/25/2013

Analyte	Concentration (ppbv)	Concentration (ug/m³)	Reporting Limit (ppbv)	Qual	Test Method	Date Analyzed /Analyst	
Volatile Organic Compounds by EPA Method TO-15							
cis-1,2-Dichloroethene	<0.200	<0.793	0.200		TO-15	06/26/2013	SG
Tetrachloroethene (PCE)	<0.300	<2.03	0.300		TO-15	06/26/2013	SG
Trichloroethene (TCE)	<0.200	<1.07	0.200		TO-15	06/26/2013	SG
Vinyl chloride	<0.200	<0.511	0.200		TO-15	06/26/2013	SG
Surr: 4-Bromofluorobenzene	95.5 %Rec	--	70-130		TO-15	06/26/2013	SG

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit

Work Order: 1306185
CLIENT: Landau Associates
Project: Heavens Supply

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method TO-15

Sample ID: **1306185-008AREP** SampType: **REP** Units: **ppbv** Prep Date: **6/26/2013** RunNo: **9041**
Client ID: **VP-1:062513** Batch ID: **R9041** Analysis Date: **6/26/2013** SeqNo: **181852**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	ND	0.200						0	0	30	
cis-1,2-Dichloroethene	ND	0.200						0	0	30	
Trichloroethene (TCE)	ND	0.200						0	0	30	
Tetrachloroethene (PCE)	ND	0.300						0	0	30	
Surr: 4-Bromofluorobenzene	81.0		80.00		101	70	130		0		

Sample ID: **LCS-R9041** SampType: **LCS** Units: **ppbv** Prep Date: **6/26/2013** RunNo: **9041**
Client ID: **LCSW** Batch ID: **R9041** Analysis Date: **6/26/2013** SeqNo: **181853**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	7.11	0.200	10.00	0	71.1	70	130				
cis-1,2-Dichloroethene	10.4	0.200	10.00	0	104	70	130				
Trichloroethene (TCE)	9.96	0.200	10.00	0	99.6	70	130				
Tetrachloroethene (PCE)	8.41	0.300	10.00	0	84.1	70	130				
Surr: 4-Bromofluorobenzene	10.9		10.00		109	70	130				

Sample ID: **LCS-R9041** SampType: **LCS** Units: **ppbv** Prep Date: **6/26/2013** RunNo: **9041**
Client ID: **LCSW** Batch ID: **R9041** Analysis Date: **6/26/2013** SeqNo: **181854**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	3.92	0.200	5.000	0	78.4	70	130				
cis-1,2-Dichloroethene	5.27	0.200	5.000	0	105	70	130				
Trichloroethene (TCE)	5.25	0.200	5.000	0	105	70	130				
Tetrachloroethene (PCE)	4.76	0.300	5.000	0	95.2	70	130				
Surr: 4-Bromofluorobenzene	9.98		10.00		99.8	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Date: *6/27/2013*

Work Order: 1306185
CLIENT: Landau Associates
Project: Heavens Supply

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method TO-15

Sample ID: **MB-R9041** SampType: **MBLK** Units: **ppbv** Prep Date: **6/26/2013** RunNo: **9041**
Client ID: **MBLKW** Batch ID: **R9041** Analysis Date: **6/26/2013** SeqNo: **181855**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	ND	0.200									
cis-1,2-Dichloroethene	ND	0.200									
Trichloroethene (TCE)	ND	0.200									
Tetrachloroethene (PCE)	ND	0.300									
Surr: 4-Bromofluorobenzene	9.49		10.00		94.9	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Sample Log-In Check List

Client Name: **LA**	Work Order Number: **1306185**
Logged by: **Clare Griggs**	Date Received: **6/25/2013 6:06:00 PM**

Chain of Custody

1.	Were custodial seals present?	Yes	☐	No	☐	Not Required ☑
2.	Is Chain of Custody complete?	Yes	☑	No	☐	Not Present ☐
3.	How was the sample delivered?	Client				

Log In

4.	Coolers are present?	Yes	☐	No	☑	NA ☐
		Air Samples				
5.	Was an attempt made to cool the samples?	Yes	☐	No	☐	NA ☑
6.	Were all coolers received at a temperature of >0° C to 10.0°C	Yes	☐	No	☐	NA ☑
7.	Sample(s) in proper container(s)?	Yes	☑	No	☐	
8.	Sufficient sample volume for indicated test(s)?	Yes	☑	No	☐	
9.	Are samples properly preserved?	Yes	☑	No	☐	
10.	Was preservative added to bottles?	Yes	☐	No	☑	NA ☐
11.	Is there headspace present in VOA vials?	Yes	☐	No	☐	NA ☑
12.	Did all sample containers arrive in good condition?(unbroken)	Yes	☑	No	☐	
13.	Does paperwork match bottle labels?	Yes	☑	No	☐	
14.	Are matrices correctly identified on Chain of Custody?	Yes	☑	No	☐	
15.	Is it clear what analyses were requested?	Yes	☑	No	☐	
16.	Were all holding times able to be met?	Yes	☑	No	☐	

Special Handling (if applicable)

17.	Was client notified of all discrepancies with this order?	Yes	☐	No	☐	NA ☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

18. Additional remarks/Disrepancies

Item Information

☑ Seattle/Edmonds (425) 778-0907
☐ Tacoma (253) 926-2493
☐ Spokane (509) 327-9737
☐ Portland (503) 542-1080
☐

LANDAU ASSOCIATES

1306185

Date 6-25-13

Page 1 of 1

Chain-of-Custody Record

Project Name Heavens Supply   Project No. 583002.050.056

Project Location/Event Seattle, WA

Sampler's Name Devan Brandt & Steve Shaw

Project Contact Piper Roelen

Send Results To Piper Roelen, Anne Halvorsen, Martin Valeri

Testing Parameters: TO-15 (Purge/VOC) VC

Turnaround Time
☐ Standard
☒ Accelerated
☐ 2 Day

Sample I.D.	Date	Time	Matrix	No. of Containers	TO-15												Observations/Comments
VMW-2:062513	6-25-13	821	Air	1	X												
VMW-3:062513	↓	838	↓	1	X												
VMW-4:062513	↓	859	↓	1	X												
SMW-2:062513	↓	937	↓	1	X												
VMW-1:062513	↓	1011	↓	1	X												
SMW-4:062513	↓	1100	↓	1	X												
SMW-3:062513	↓	1115	↓	1	X												
VP-1:062513	↓	1750	↓	1	X												

Observations/Comments
X Allow water samples to settle, collect aliquot from clear portion
X NWTPH-Dx - run acid wash/silica gel cleanup
__ run samples standardized to ______ product
__ Analyze for EPH if no specific product identified
VOC/BTEX/VPH (soil):
__ non-preserved
__ preserved w/methanol
__ preserved w/sodium bisulfate
__ Freeze upon receipt
__ Dissolved metal water samples field filtered
Other ______

Special Shipment/Handling or Storage Requirements

Method of Shipment: Drop off

Relinquished by	Received by	Relinquished by	Received by
Signature: [signature]	Signature: [signature]	Signature	Signature
Printed Name: Steven D. Shaw	Printed Name: Paul Ho	Printed Name	Printed Name
Company: Landau Associates	Company: Fremont Analytical	Company	Company
Date 6/25/13 Time 1806	Date 6/25/13 Time 18:06	Date ____ Time ____	Date ____ Time ____

WHITE COPY - Project File   YELLOW COPY - Laboratory   PINK COPY - Client Representative

Rev 8/09

ATTACHMENT 4

Laboratory Analytical Reports – Groundwater

July 1, 2013

Mr. Piper Roelen
Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

Dear Mr. Roelen,

On June 19th, 5 samples were received by our laboratory and assigned our laboratory project number EV13060095. The project was identified as your Heavens Supply / #583002.050.056. The sample identification and requested analyses are outlined on the attached chain of custody record.

No abnormalities or nonconformances were observed during the analyses of the project samples.

Please do not hesitate to call me if you have any questions or if I can be of further assistance.

Sincerely,

ALS Laboratory Group

Rick Bagan
Laboratory Director

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 98208 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Laboratory Group A Campbell Brothers Limited Company

ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE: ALS JOB#: ALS SAMPLE#:	7/1/2013 EV13060095 -01
CLIENT CONTACT:	Piper Roelen	DATE RECEIVED:	6/19/2013
CLIENT PROJECT:	Heavens Supply / #583002.050.056	COLLECTION DATE:	6/18/2013 3:25:00 PM
CLIENT SAMPLE ID	MW-2:061813	WDOE ACCREDITATION:	C601

DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Dichlorodifluoromethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Chloromethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Vinyl Chloride	EPA-8260	U	0.20	1	UG/L	06/24/2013	GAP
Bromomethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Chloroethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Carbon Tetrachloride	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Trichlorofluoromethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Carbon Disulfide	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Acetone	EPA-8260	U	25	1	UG/L	06/24/2013	GAP
1,1-Dichloroethene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Methylene Chloride	EPA-8260	U	5.0	1	UG/L	06/24/2013	GAP
Acrylonitrile	EPA-8260	U	10	1	UG/L	06/24/2013	GAP
Methyl T-Butyl Ether	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Trans-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,1-Dichloroethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
2-Butanone	EPA-8260	U	10	1	UG/L	06/24/2013	GAP
Cis-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
2,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Bromochloromethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Chloroform	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,1,1-Trichloroethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,1-Dichloropropene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,2-Dichloroethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Benzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Trichloroethene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Dibromomethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Bromodichloromethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Trans-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
4-Methyl-2-Pentanone	EPA-8260	U	10	1	UG/L	06/24/2013	GAP
Toluene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Cis-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,1,2-Trichloroethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
2-Hexanone	EPA-8260	U	10	1	UG/L	06/24/2013	GAP
1,3-Dichloropropane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Tetrachloroethylene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Dibromochloromethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,2-Dibromoethane	EPA-8260	U	0.010	1	UG/L	06/24/2013	GAP

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ALS Laboratory Group A Campbell Brothers Limited Company

ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE: ALS JOB#: ALS SAMPLE#:	7/1/2013 EV13060095 -01
CLIENT CONTACT:	Piper Roelen	DATE RECEIVED:	6/19/2013
CLIENT PROJECT:	Heavens Supply / #583002.050.056	COLLECTION DATE:	6/18/2013 3:25:00 PM
CLIENT SAMPLE ID	MW-2:061813	WDOE ACCREDITATION:	C601

DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Chlorobenzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Ethylbenzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
m,p-Xylene	EPA-8260	U	4.0	1	UG/L	06/24/2013	GAP
Styrene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
o-Xylene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Bromoform	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Isopropylbenzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,2,3-Trichloropropane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Bromobenzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
N-Propyl Benzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
2-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,3,5-Trimethylbenzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
4-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
T-Butyl Benzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,2,4-Trimethylbenzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
S-Butyl Benzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
P-Isopropyltoluene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,3 Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,4-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
N-Butylbenzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,2-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,2-Dibromo 3-Chloropropane	EPA-8260	U	10	1	UG/L	06/24/2013	GAP
1,2,4-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Hexachlorobutadiene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Naphthalene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,2,3-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	102	06/24/2013	GAP
Toluene-d8	EPA-8260	95.7	06/24/2013	GAP
4-Bromofluorobenzene	EPA-8260	102	06/24/2013	GAP

U - Analyte analyzed for but not detected at level above reporting limit.

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ALS Laboratory Group A Campbell Brothers Limited Company

ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE: ALS JOB#: ALS SAMPLE#:	7/1/2013 EV13060095 -02
CLIENT CONTACT:	Piper Roelen	DATE RECEIVED:	6/19/2013
CLIENT PROJECT:	Heavens Supply / #583002.050.056	COLLECTION DATE:	6/18/2013 3:15:00 PM
CLIENT SAMPLE ID	MW-3:061813	WDOE ACCREDITATION:	C601

DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Dichlorodifluoromethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Chloromethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Vinyl Chloride	EPA-8260	U	0.20	1	UG/L	06/24/2013	GAP
Bromomethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Chloroethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Carbon Tetrachloride	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Trichlorofluoromethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Carbon Disulfide	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Acetone	EPA-8260	U	25	1	UG/L	06/24/2013	GAP
1,1-Dichloroethene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Methylene Chloride	EPA-8260	U	5.0	1	UG/L	06/24/2013	GAP
Acrylonitrile	EPA-8260	U	10	1	UG/L	06/24/2013	GAP
Methyl T-Butyl Ether	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Trans-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,1-Dichloroethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
2-Butanone	EPA-8260	U	10	1	UG/L	06/24/2013	GAP
Cis-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
2,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Bromochloromethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Chloroform	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,1,1-Trichloroethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,1-Dichloropropene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,2-Dichloroethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Benzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Trichloroethene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Dibromomethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Bromodichloromethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Trans-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
4-Methyl-2-Pentanone	EPA-8260	U	10	1	UG/L	06/24/2013	GAP
Toluene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Cis-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,1,2-Trichloroethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
2-Hexanone	EPA-8260	U	10	1	UG/L	06/24/2013	GAP
1,3-Dichloropropane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Tetrachloroethylene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Dibromochloromethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,2-Dibromoethane	EPA-8260	U	0.010	1	UG/L	06/24/2013	GAP

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ALS Laboratory Group A Campbell Brothers Limited Company

ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE: ALS JOB#: ALS SAMPLE#:	7/1/2013 EV13060095 -02
CLIENT CONTACT:	Piper Roelen	DATE RECEIVED:	6/19/2013
CLIENT PROJECT:	Heavens Supply / #583002.050.056	COLLECTION DATE:	6/18/2013 3:15:00 PM
CLIENT SAMPLE ID	MW-3:061813	WDOE ACCREDITATION:	C601

DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Chlorobenzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Ethylbenzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
m,p-Xylene	EPA-8260	U	4.0	1	UG/L	06/24/2013	GAP
Styrene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
o-Xylene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Bromoform	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Isopropylbenzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,2,3-Trichloropropane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Bromobenzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
N-Propyl Benzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
2-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,3,5-Trimethylbenzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
4-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
T-Butyl Benzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,2,4-Trimethylbenzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
S-Butyl Benzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
P-Isopropyltoluene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,3 Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,4-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
N-Butylbenzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,2-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,2-Dibromo 3-Chloropropane	EPA-8260	U	10	1	UG/L	06/24/2013	GAP
1,2,4-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Hexachlorobutadiene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Naphthalene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,2,3-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	**102**	06/24/2013	GAP
Toluene-d8	EPA-8260	**95.5**	06/24/2013	GAP
4-Bromofluorobenzene	EPA-8260	**102**	06/24/2013	GAP

U - Analyte analyzed for but not detected at level above reporting limit.

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ALS Laboratory Group A Campbell Brothers Limited Company

ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE: ALS JOB#: ALS SAMPLE#:	7/1/2013 EV13060095 -03
CLIENT CONTACT:	Piper Roelen	DATE RECEIVED:	6/19/2013
CLIENT PROJECT:	Heavens Supply / #583002.050.056	COLLECTION DATE:	6/18/2013 4:00:00 PM
CLIENT SAMPLE ID	MW-4:061813	WDOE ACCREDITATION:	C601

DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Dichlorodifluoromethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Chloromethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Vinyl Chloride	EPA-8260	U	0.20	1	UG/L	06/24/2013	GAP
Bromomethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Chloroethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Carbon Tetrachloride	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Trichlorofluoromethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Carbon Disulfide	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Acetone	EPA-8260	U	25	1	UG/L	06/24/2013	GAP
1,1-Dichloroethene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Methylene Chloride	EPA-8260	U	5.0	1	UG/L	06/24/2013	GAP
Acrylonitrile	EPA-8260	U	10	1	UG/L	06/24/2013	GAP
Methyl T-Butyl Ether	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Trans-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,1-Dichloroethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
2-Butanone	EPA-8260	U	10	1	UG/L	06/24/2013	GAP
Cis-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
2,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Bromochloromethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Chloroform	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,1,1-Trichloroethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,1-Dichloropropene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,2-Dichloroethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Benzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Trichloroethene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Dibromomethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Bromodichloromethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Trans-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
4-Methyl-2-Pentanone	EPA-8260	U	10	1	UG/L	06/24/2013	GAP
Toluene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Cis-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,1,2-Trichloroethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
2-Hexanone	EPA-8260	U	10	1	UG/L	06/24/2013	GAP
1,3-Dichloropropane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Tetrachloroethylene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Dibromochloromethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,2-Dibromoethane	EPA-8260	U	0.010	1	UG/L	06/24/2013	GAP

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 98208 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Laboratory Group A Campbell Brothers Limited Company

ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE: ALS JOB#: ALS SAMPLE#:	7/1/2013 EV13060095 -03
CLIENT CONTACT:	Piper Roelen	DATE RECEIVED:	6/19/2013
CLIENT PROJECT:	Heavens Supply / #583002.050.056	COLLECTION DATE:	6/18/2013 4:00:00 PM
CLIENT SAMPLE ID	MW-4:061813	WDOE ACCREDITATION:	C601

DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Chlorobenzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Ethylbenzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
m,p-Xylene	EPA-8260	U	4.0	1	UG/L	06/24/2013	GAP
Styrene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
o-Xylene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Bromoform	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Isopropylbenzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,2,3-Trichloropropane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Bromobenzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
N-Propyl Benzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
2-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,3,5-Trimethylbenzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
4-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
T-Butyl Benzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,2,4-Trimethylbenzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
S-Butyl Benzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
P-Isopropyltoluene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,3 Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,4-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
N-Butylbenzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,2-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,2-Dibromo 3-Chloropropane	EPA-8260	U	10	1	UG/L	06/24/2013	GAP
1,2,4-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Hexachlorobutadiene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Naphthalene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,2,3-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	**102**	06/24/2013	GAP
Toluene-d8	EPA-8260	**95.6**	06/24/2013	GAP
4-Bromofluorobenzene	EPA-8260	**102**	06/24/2013	GAP

U - Analyte analyzed for but not detected at level above reporting limit.

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 98208 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Laboratory Group A Campbell Brothers Limited Company

ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE: ALS JOB#: ALS SAMPLE#:	7/1/2013 EV13060095 -04
CLIENT CONTACT:	Piper Roelen	DATE RECEIVED:	6/19/2013
CLIENT PROJECT:	Heavens Supply / #583002.050.056	COLLECTION DATE:	6/18/2013 3:43:00 PM
CLIENT SAMPLE ID	MW-5:061813	WDOE ACCREDITATION:	C601

DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Dichlorodifluoromethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Chloromethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Vinyl Chloride	EPA-8260	U	0.20	1	UG/L	06/24/2013	GAP
Bromomethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Chloroethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Carbon Tetrachloride	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Trichlorofluoromethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Carbon Disulfide	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Acetone	EPA-8260	U	25	1	UG/L	06/24/2013	GAP
1,1-Dichloroethene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Methylene Chloride	EPA-8260	U	5.0	1	UG/L	06/24/2013	GAP
Acrylonitrile	EPA-8260	U	10	1	UG/L	06/24/2013	GAP
Methyl T-Butyl Ether	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Trans-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,1-Dichloroethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
2-Butanone	EPA-8260	U	10	1	UG/L	06/24/2013	GAP
Cis-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
2,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Bromochloromethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Chloroform	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,1,1-Trichloroethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,1-Dichloropropene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,2-Dichloroethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Benzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Trichloroethene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Dibromomethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Bromodichloromethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Trans-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
4-Methyl-2-Pentanone	EPA-8260	U	10	1	UG/L	06/24/2013	GAP
Toluene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Cis-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,1,2-Trichloroethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
2-Hexanone	EPA-8260	U	10	1	UG/L	06/24/2013	GAP
1,3-Dichloropropane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Tetrachloroethylene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Dibromochloromethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,2-Dibromoethane	EPA-8260	U	0.010	1	UG/L	06/24/2013	GAP

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ALS Laboratory Group A Campbell Brothers Limited Company

ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE: ALS JOB#: ALS SAMPLE#:	7/1/2013 EV13060095 -04
CLIENT CONTACT:	Piper Roelen	DATE RECEIVED:	6/19/2013
CLIENT PROJECT:	Heavens Supply / #583002.050.056	COLLECTION DATE:	6/18/2013 3:43:00 PM
CLIENT SAMPLE ID	MW-5:061813	WDOE ACCREDITATION:	C601

DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Chlorobenzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Ethylbenzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
m,p-Xylene	EPA-8260	U	4.0	1	UG/L	06/24/2013	GAP
Styrene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
o-Xylene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Bromoform	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Isopropylbenzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,2,3-Trichloropropane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Bromobenzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
N-Propyl Benzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
2-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,3,5-Trimethylbenzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
4-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
T-Butyl Benzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,2,4-Trimethylbenzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
S-Butyl Benzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
P-Isopropyltoluene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,3 Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,4-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
N-Butylbenzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,2-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,2-Dibromo 3-Chloropropane	EPA-8260	U	10	1	UG/L	06/24/2013	GAP
1,2,4-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Hexachlorobutadiene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Naphthalene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,2,3-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	**102**	06/24/2013	GAP
Toluene-d8	EPA-8260	**95.4**	06/24/2013	GAP
4-Bromofluorobenzene	EPA-8260	**101**	06/24/2013	GAP

U - Analyte analyzed for but not detected at level above reporting limit.

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ALS Laboratory Group A Campbell Brothers Limited Company

ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE: ALS JOB#: ALS SAMPLE#:	7/1/2013 EV13060095 -05
CLIENT CONTACT:	Piper Roelen	DATE RECEIVED:	6/19/2013
CLIENT PROJECT:	Heavens Supply / #583002.050.056	COLLECTION DATE:	6/18/2013 8:00:00 AM
CLIENT SAMPLE ID	TRIP BLANK	WDOE ACCREDITATION:	C601

DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Dichlorodifluoromethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Chloromethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Vinyl Chloride	EPA-8260	U	0.20	1	UG/L	06/24/2013	GAP
Bromomethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Chloroethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Carbon Tetrachloride	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Trichlorofluoromethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Carbon Disulfide	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Acetone	EPA-8260	U	25	1	UG/L	06/24/2013	GAP
1,1-Dichloroethene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Methylene Chloride	EPA-8260	U	5.0	1	UG/L	06/24/2013	GAP
Acrylonitrile	EPA-8260	U	10	1	UG/L	06/24/2013	GAP
Methyl T-Butyl Ether	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Trans-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,1-Dichloroethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
2-Butanone	EPA-8260	U	10	1	UG/L	06/24/2013	GAP
Cis-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
2,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Bromochloromethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Chloroform	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,1,1-Trichloroethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,1-Dichloropropene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,2-Dichloroethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Benzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Trichloroethene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Dibromomethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Bromodichloromethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Trans-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
4-Methyl-2-Pentanone	EPA-8260	U	10	1	UG/L	06/24/2013	GAP
Toluene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Cis-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,1,2-Trichloroethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
2-Hexanone	EPA-8260	U	10	1	UG/L	06/24/2013	GAP
1,3-Dichloropropane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Tetrachloroethylene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Dibromochloromethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,2-Dibromoethane	EPA-8260	U	0.010	1	UG/L	06/24/2013	GAP

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ALS Laboratory Group A Campbell Brothers Limited Company

ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE: ALS JOB#: ALS SAMPLE#:	7/1/2013 EV13060095 -05
CLIENT CONTACT:	Piper Roelen	DATE RECEIVED:	6/19/2013
CLIENT PROJECT:	Heavens Supply / #583002.050.056	COLLECTION DATE:	6/18/2013 8:00:00 AM
CLIENT SAMPLE ID	TRIP BLANK	WDOE ACCREDITATION:	C601

DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Chlorobenzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Ethylbenzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
m,p-Xylene	EPA-8260	U	4.0	1	UG/L	06/24/2013	GAP
Styrene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
o-Xylene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Bromoform	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Isopropylbenzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,2,3-Trichloropropane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Bromobenzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
N-Propyl Benzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
2-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,3,5-Trimethylbenzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
4-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
T-Butyl Benzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,2,4-Trimethylbenzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
S-Butyl Benzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
P-Isopropyltoluene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,3 Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,4-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
N-Butylbenzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,2-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,2-Dibromo 3-Chloropropane	EPA-8260	U	10	1	UG/L	06/24/2013	GAP
1,2,4-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Hexachlorobutadiene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Naphthalene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,2,3-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	**103**	06/24/2013	GAP
Toluene-d8	EPA-8260	**94.7**	06/24/2013	GAP
4-Bromofluorobenzene	EPA-8260	**102**	06/24/2013	GAP

U - Analyte analyzed for but not detected at level above reporting limit.

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ALS Laboratory Group A Campbell Brothers Limited Company

ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

CLIENT CONTACT: Piper Roelen
CLIENT PROJECT: Heavens Supply / #583002.050.056

DATE: 7/1/2013
ALS SDG#: EV13060095
WDOE ACCREDITATION: C601

LABORATORY BLANK RESULTS

MB-062413W - Batch 3854 - Water by EPA-8260

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Dichlorodifluoromethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Chloromethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Vinyl Chloride	EPA-8260	U	0.20	1	UG/L	06/24/2013	GAP
Bromomethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Chloroethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Carbon Tetrachloride	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Trichlorofluoromethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Carbon Disulfide	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Acetone	EPA-8260	U	25	1	UG/L	06/24/2013	GAP
1,1-Dichloroethene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Methylene Chloride	EPA-8260	U	5.0	1	UG/L	06/24/2013	GAP
Acrylonitrile	EPA-8260	U	10	1	UG/L	06/24/2013	GAP
Methyl T-Butyl Ether	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Trans-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,1-Dichloroethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
2-Butanone	EPA-8260	U	10	1	UG/L	06/24/2013	GAP
Cis-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
2,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Bromochloromethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Chloroform	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,1,1-Trichloroethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,1-Dichloropropene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,2-Dichloroethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Benzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Trichloroethene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Dibromomethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Bromodichloromethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Trans-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
4-Methyl-2-Pentanone	EPA-8260	U	10	1	UG/L	06/24/2013	GAP
Toluene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Cis-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,1,2-Trichloroethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
2-Hexanone	EPA-8260	U	10	1	UG/L	06/24/2013	GAP
1,3-Dichloropropane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Tetrachloroethylene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Dibromochloromethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,2-Dibromoethane	EPA-8260	U	0.010	1	UG/L	06/24/2013	GAP

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 98208 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Laboratory Group A Campbell Brothers Limited Company

ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE: ALS SDG#: WDOE ACCREDITATION:	7/1/2013 EV13060095 C601
CLIENT CONTACT:	Piper Roelen		
CLIENT PROJECT:	Heavens Supply / #583002.050.056		

LABORATORY BLANK RESULTS

MB-062413W - Batch 3854 - Water by EPA-8260

Chlorobenzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Ethylbenzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
m,p-Xylene	EPA-8260	U	4.0	1	UG/L	06/24/2013	GAP
Styrene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
o-Xylene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Bromoform	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Isopropylbenzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,2,3-Trichloropropane	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Bromobenzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
N-Propyl Benzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
2-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,3,5-Trimethylbenzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
4-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
T-Butyl Benzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,2,4-Trimethylbenzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
S-Butyl Benzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
P-Isopropyltoluene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,3 Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,4-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
N-Butylbenzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,2-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,2-Dibromo 3-Chloropropane	EPA-8260	U	10	1	UG/L	06/24/2013	GAP
1,2,4-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Hexachlorobutadiene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
Naphthalene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP
1,2,3-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	06/24/2013	GAP

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CLIENT CONTACT:	Piper Roelen		
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LABORATORY CONTROL SAMPLE RESULTS

ALS Test Batch ID: 3854 - Water by EPA-8260

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	ANALYSIS DATE	ANALYSIS BY
1,1-Dichloroethene - BS	EPA-8260	**95.2**			06/24/2013	GAP
1,1-Dichloroethene - BSD	EPA-8260	**99.5**	**4**		06/24/2013	GAP
Benzene - BS	EPA-8260	**100**			06/24/2013	GAP
Benzene - BSD	EPA-8260	**106**	**6**		06/24/2013	GAP
Trichloroethene - BS	EPA-8260	**100**			06/24/2013	GAP
Trichloroethene - BSD	EPA-8260	**106**	**6**		06/24/2013	GAP
Toluene - BS	EPA-8260	**94.0**			06/24/2013	GAP
Toluene - BSD	EPA-8260	**99.0**	**5**		06/24/2013	GAP
Chlorobenzene - BS	EPA-8260	**88.8**			06/24/2013	GAP
Chlorobenzene - BSD	EPA-8260	**93.9**	**6**		06/24/2013	GAP

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MATRIX SPIKE RESULTS

ALS Test Batch ID: 3854 - Water
Parent Sample: BATCH QC

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	ANALYSIS DATE	ANALYSIS BY
1,1-Dichloroethene - MS	EPA-8260	**96.7**			06/24/2013	GAP
1,1-Dichloroethene - MSD	EPA-8260	**99.7**	3		06/24/2013	GAP
Benzene - MS	EPA-8260	**98.0**			06/24/2013	GAP
Benzene - MSD	EPA-8260	**101**	3		06/24/2013	GAP
Trichloroethene - MS	EPA-8260	**99.8**			06/24/2013	GAP
Trichloroethene - MSD	EPA-8260	**102**	2		06/24/2013	GAP
Toluene - MS	EPA-8260	**91.5**			06/24/2013	GAP
Toluene - MSD	EPA-8260	**94.4**	3		06/24/2013	GAP
Chlorobenzene - MS	EPA-8260	**86.4**			06/24/2013	GAP
Chlorobenzene - MSD	EPA-8260	**87.8**	2		06/24/2013	GAP

APPROVED BY

Laboratory Director

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ALS ENVIRONMENTAL

Sample Receiving Checklist

Client: Landau Associates ALS Job #: EV1306009 5

Project: Heavens Supply / #583002.050.056

Received Date: 6/19/13 Received Time: 11:05 By: SM

Type of shipping container: Cooler X Box ___ Other ___

Shipped via: UPS/FedEx ___ US Postal Service ___ Courier ___ Hand Delivered X By Rick

	Yes	No	N/A
Were custody seals on outside of sample? If yes, how many? 1 Where? outside cooler Custody seal date: 6/18/13 Seal name: Landau	X	___	___
Was Chain of Custody properly filled out (ink, signed, dated, etc.)?	X	___	___
Did all bottles have labels?	X	___	___
Did all bottle labels and tags agree with Chain of Custody?	___	X	___
Were samples received within hold time?	X	___	___
Did all bottles arrive in good condition (unbroken, etc.)?	X	___	___
Was sufficient amount of sample sent for the tests indicated?	X	___	___
Was correct preservation added to samples?	X	___	___

If no, Sample Control added preservative to the following:

Sample Number	Reagent	Analyte

Were VOA vials checked for absence of air bubbles? Bubbles present in sample #: None	X	___	___

Temperature of cooler upon receipt: 7.8°c on ice (Cold) Cool Ambient N/A

Explain any discrepancies: Received 1 set of Trip Blanks not listed on COC.

Was client contacted? Yes Who was called? Devan Brandt By whom? Shawn Date: 6/19/13 11:19a

Outcome of call: Martin Valeri will email a revised COC to Rick to add Trip Blanks.

EV1306009S

☒ Seattle/Edmonds (425) 778-0907
☐ Tacoma (253) 926-2493
☐ Spokane (509) 327-9737
☐ Portland (503) 542-1080
☐

LANDAU ASSOCIATES

Chain-of-Custody Record

Date 6-18-13
Page 1 of 1

Project Name Heavens Supply — Project No. 583002.050.056
Project Location/Event Seattle, WA
Sampler's Name Devan Brandt
Project Contact Piper Roelen
Send Results To Piper Roelen, Anne Halvorsen, Martin Valeri

Testing Parameters

Turnaround Time
☒ Standard
☐ Accelerated
☐

	Sample I.D.	Date	Time	Matrix	No. of Containers	VOC's 8260
1	MW-2:061813	6-18-13	1525	Water	3	X
2	MW-3:061813	↓	1515	Water	3	X
3	MW-4:061813	↓	1600	Water	3	X
4	MW-5:061813	↓	1543	Water	3	X
5 (MCU 6/19/13)	TRIP BLANK	—	—	WATER	2	X

Observations/Comments

X Allow water samples to settle, collect aliquot from clear portion

X NWTPH-Dx - run acid wash/silica gel cleanup

___ run samples standardized to ________ product

___ Analyze for EPH if no specific product identified

VOC/BTEX/VPH (soil):
___ non-preserved
___ preserved w/methanol
___ preserved w/sodium bisulfate
___ Freeze upon receipt

___ Dissolved metal water samples field filtered

Other ________

Special Shipment/Handling or Storage Requirements

Method of Shipment Courier Pickup

Relinquished by	Received by	Relinquished by	Received by
Signature: Devan Brandt	Signature: Shawn Robinson	Signature	Signature
Printed Name: Devan Brandt	Printed Name: Shawn Robinson	Printed Name	Printed Name
Company: LANDAU	Company: ALS	Company	Company
Date 6-18-13 Time 1725	Date 6/19/13 Time 11:05	Date Time	Date Time

WHITE COPY - Project File   YELLOW COPY - Laboratory   PINK COPY - Client Representative

Rev 8/09